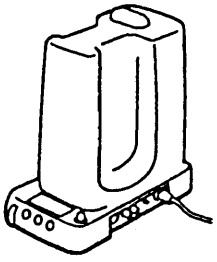
VIP-1000

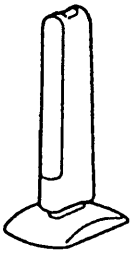
TMR-IF310/VIP-1000H

SERVICE MANUAL

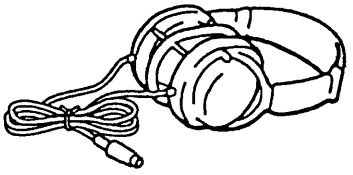
US Model



VIP-1000



TMR-IF310



VIP-1000H

MODELS OF THE SAME SERIES	
VIP-1000	

SPECIFICATIONS

Transmitter (TMR-IF310)

Modulation system
Frequency modulation
Carrier frequency
Right 2.8 MHz
Left 2.3 MHz
Effective range
Up to approx. 5 m (16 ft.)
Dimensions (W/H/D)
Approx. 70 × 207 × 123 mm
(2 7/8 × 8 1/4 × 4 7/8 in.)
Mass
Approx. 110 g (3.9 oz.)

DSP unit (VIP-1000)

Frequency response
20-20,000 Hz
(LINE INPUT, EFFECT OFF)
Distortion
Less than 1% at 1 kHz
(LINE INPUT, EFFECT OFF)
Power source
120 V AC, 60 Hz
Audio input
Line input High: 2 Vrms
100% modulation
Low: 0.5 Vrms
100% modulation
Dimensions (W/H/D)
Approx. 145.4 × 274 × 261.9 mm
(5 3/4 × 10 7/8 × 10 3/8 in.)
Mass
Approx. 2.5 kg(5 lb 9 oz.)

Headphones (VIP-1000H)

Mass
Approx. 340 g(12 oz.)

Supplied accessories

AC power adaptor AC-96N (1)
Audio cable (1)

Design and specifications are subject to change without notice.

The infrared sensor of the VIP-1000 uses DNR™ (Dynamic Noise Reduction system).
"DNR is a trademark of National Semiconductor Corporation."

Cordless Stereo Headphone System

SONY®

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SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

The operating instructions mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers of the Operating Instruction Manual remein as in the manual.

Welcome!

Thank you for purchasing the Sony cordless stereo headphones system. This headphones system is designed to make your A/V life more enjoyable. With your new headphones system, you can enjoy clear and realistic theater-like sounds from the headphones while in the comfort of your own home.

Before operating this headphones system, please read this manual thoroughly and retain it for future reference.

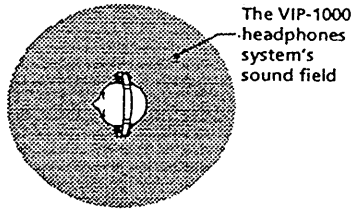
What is the VIP-1000 cordless stereo headphones system?

The VIP-1000 is a new type of headphones system which has a spatial sound field effect function. Once you activate this function, the DSP (Digital Signal Processor) unit remembers the sound front position (sound direction) and automatically adjusts the headphones to compensate for the shifting sound position whenever you turn your head. With this function, you can experience sound movement that is linked to the picture movement. The result is improved clarity of words and music fixed to the scene as if you are listening to the sound from stereo speakers. The DSP gives you clear and realistic sound and allows you to select the DSP mode and different levels of acoustic reverberation without loss of sound quality.

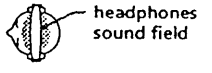
This new type of headphones system has the following features:

- Out of head sound image for accurate reproduction of the sound field
  The DSP unit recognizes a full 360 degree sound field and enables you to hear an accurate indoor sound field simulation. You can enjoy this effect for any sound.

Sound field of new headphones system

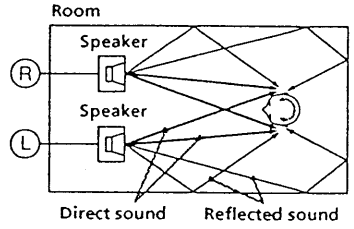


Sound field of current headphones system

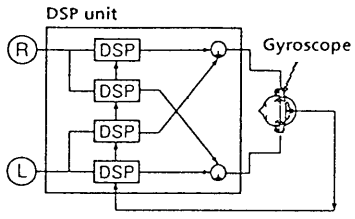


- Direction compensation
  A gyroscope built-in the headphones can detect your head angle and compensate the sound transfer characteristic from the source to your ears. You can experience the natural sound field and quality as if you were listening from stereo speakers.

Ordinary stereo sound field (with speakers)



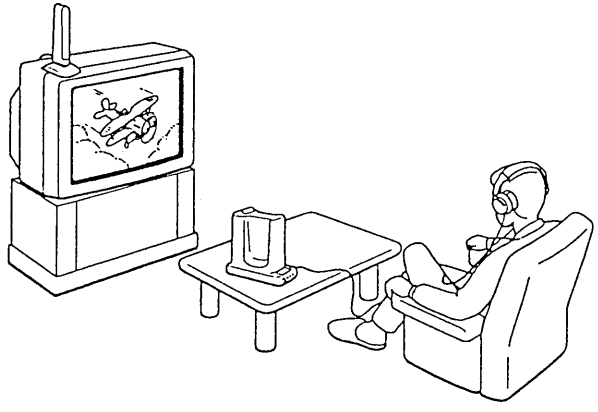
New sound field (with the VIP-1000)



- Fully open headphones
  Since this comfortable fitting fully open headphones do not cover the whole of your ears, they reduce the discomfort from ear pressure and tiredness from prolonged listening. These headphones are designed to effectively reproduce the natural sound field effect.

Configuration of the headphones system

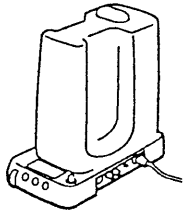
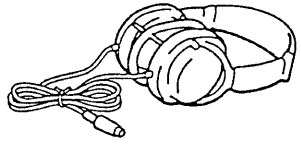
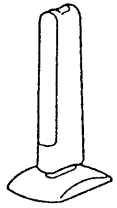
The headphones system consists of a DSP unit, the headphones, and a transmitter. With the transmitter, you are free from the restriction of an audio cable when listening to a program. You can use this system with any audio/video equipment with line output jacks.



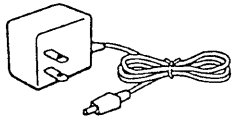
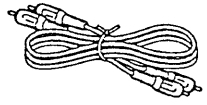
Unpacking

Check that you have the following items:

- DSP unit
- Headphones
- Transmitter

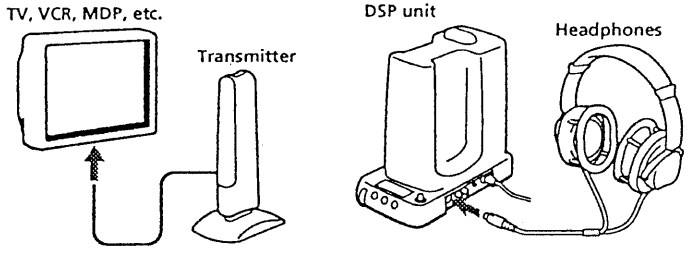
- AC power adaptor
- Audio cable (1.5 m) (phono plugs ⟷ phono plugs)
- Ear pads

Connections

Overview

Set up the headphones system as follows:

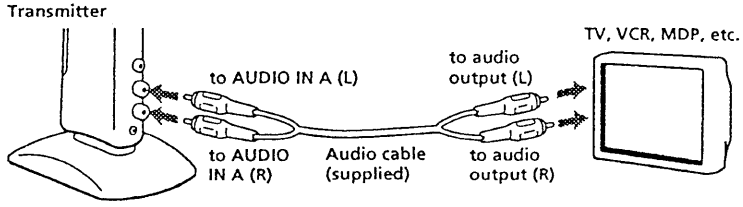


For details of each connection, see the following pages.

Connecting to audio/video equipment

Connecting the transmitter to the audio/video equipment

When you use the supplied audio cable, connect the AUDIO IN A jacks to the LINE OUT or REC OUT jacks of the source equipment.



Note

Do not use A and B terminals at the same time. If you do so, the audio signals may be mixed.

Optional connecting cords

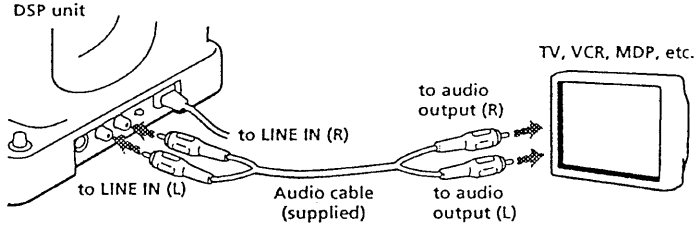
For connecting the LINE OUT or REC OUT jacks to the AUDIO IN B jack:
For connecting the headphones jack to the AUDIO IN A jacks:
RK-G129KS (stereo mini plug ⟷ phono plug × 2)

For connecting the headphones jack to the AUDIO IN B jack:
RK-G136KS (stereo mini plug ⟷ stereo mini plug)

If you want to connect the DSP unit directly to the audio/video equipment

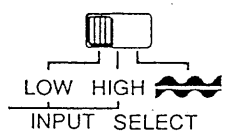
Connect the DSP unit directly to the audio/video equipment in the following cases:

- When you want to enjoy better quality sound.
- When you want to use the headphones system beyond the infrared effective area (see "Effective area of the infrared rays" on the next page).
- When there are any obstacles between the transmitter and the connected audio/video equipment.



Setting the input level

When you connect the DSP unit directly to the audio/video equipment, you must set the INPUT SELECT switch to the appropriate position depending on the output level of the connected equipment.
Make sure to change the setting to prevent sound distortion and to protect your ears.



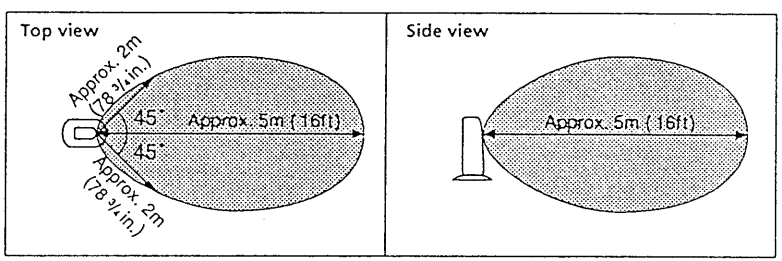
Position	Connected equipment
LOW	TV, VCR, MDP (when the output is analogue sound)
HIGH	MDP (when the output is digital sound)
≈	Supplied transmitter

Notes

- If nothing is connected to the LINE IN jacks of the DSP unit, the DSP unit will automatically input the signal from the transmitter.
- Turn down the volume whenever you change the input setting.

Effective area of the infrared rays

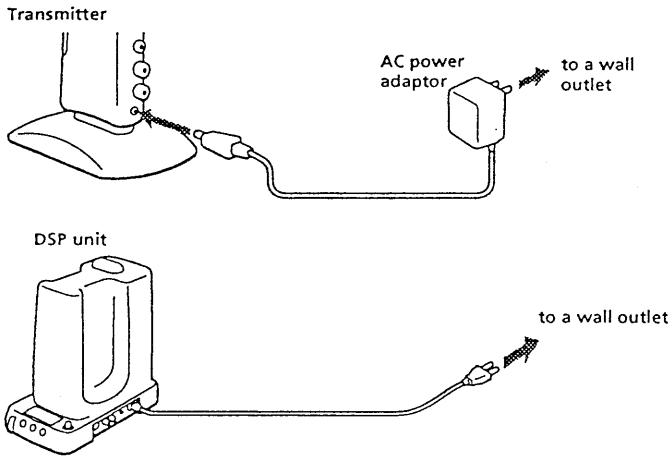
The diagrams illustrate the approximate area covered by the infrared rays emitted from the transmitter. Position the transmitter so that your listening area is within the effective areas of the transmitter.



Notes

- The infrared rays will not penetrate walls or opaque glass; therefore, the DSP unit must be used within the "in sight" area of the transmitter.
- As long as you use the DSP unit inside the area the diagrams above illustrate, the transmitter can be placed in the front, behind or by the side of the listener.
- The brightness of the infrared emitters may not be equal. However, this is not a malfunction and does not affect the effective areas of the transmitter.

Connecting to a wall outlet

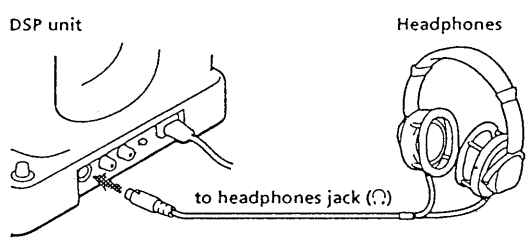


Note

Use only the supplied AC power adaptor. Do not use any other AC power adaptor, otherwise it may cause a malfunction of the unit.

Polarity of the plug

Connecting the headphones to the DSP unit

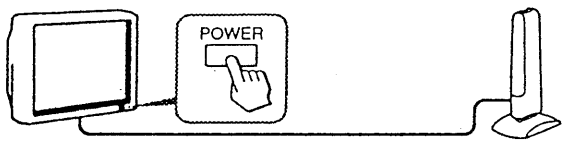


Note

To disconnect the headphones, pull the headphones cord out by grasping the plug. Never pull it by the cord.

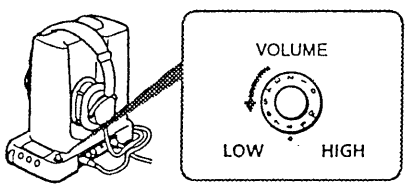
Listening to a program

1 Turn on the audio/video equipment connected to the transmitter. When the audio signal is supplied, the transmitter turns on automatically and the infrared emitter lights glow. If the transmitter is connected to the headphones jack of the source equipment, set the volume control of that equipment as high as possible without the audio signal getting distorted.

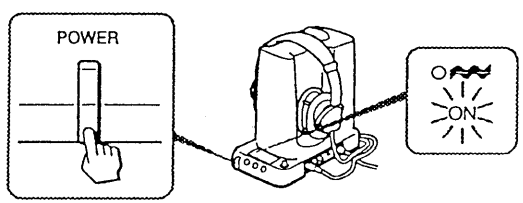


Note
Make sure you set INPUT SELECT on the DSP unit to the appropriate position.

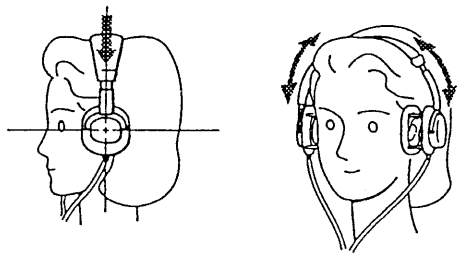
2 Turn the volume of the DSP unit to minimum.



3 Put the headphones on the top of the DSP unit, then press POWER on the DSP unit.
Do not move the headphones from the DSP unit while "ON" is blinking.
"ON" blinks in the display window for a few seconds, and the ≈ indicator lights up indicating that it is receiving the signal from the transmitter.

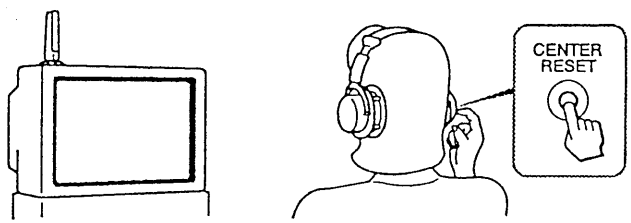


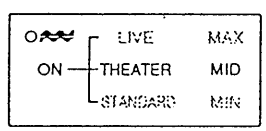
4 Put on the headphones vertically and adjust the slider band.
Make sure that the headphones are correctly orientated: i.e., left headphone on the left ear.



Note
When you take off the headphones, handle them carefully with both hands; not with one hand.

5 Turn your head to your desired sound front position (e.g., in front of the TV), then press CENTER RESET on the right headphone.
You can now select the DSP mode and reverberation levels of your choice. The selected mode and level will appear in the display window. For details of the DSP mode and reverberation levels, see "Selecting the sound field effect" on page 13.

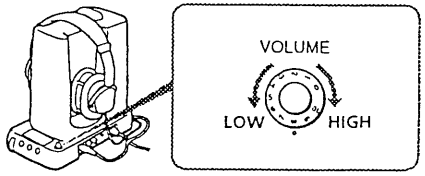




After you press CENTER RESET, you will hear the sound coming from the specified sound front position whenever you turn your head. It is just like listening to the sound from stereo speakers, not from the headphones.

(continued)

6 Adjust the volume by using VOLUME on the DSP unit.



Notes on the transmitter

- Be sure to remain in the effective range of the infrared rays while listening (see "Effective area of the infrared rays" on page 8).
- Do not cover the infrared sensor with your hands.

Notes on the headphones

- Do not use the headphones under the direct sunlight.
- Remember not to disturb those close to you with sounds coming from your headphones.
- Keep the volume at a moderate level. This will allow you to hear outside sounds and protect your ears.
- At a high volume outside sounds may become inaudible. Avoid listening to the unit in situations where hearing must not be impaired.

After using the headphones

Be sure to turn off the DSP unit first, then turn off the connected equipment to the transmitter. Otherwise, you may hear some noise when the infrared rays are suddenly cut off. However, this is not a sign of malfunction.

When no audio signal is received for more than approximately three minutes

The transmitter will be turned off automatically.

When the audio signal is interrupted or extremely low sound continues for more than approximately three minutes

The transmitter may turn itself off. If the transmitter is connected to the headphones jack of the source equipment, increase the volume of that equipment and lower the volume of the DSP unit.

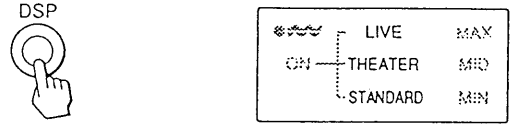
Selecting the sound field effect

The VIP-1000 reproduces reflected and reverberated sound using its digital signal processor. This unit incorporates three types of DSP (Digital Signal Processor) modes: LIVE, THEATER, and STANDARD. You can enjoy these modes at your pleasure and adjust the reverberation of each DSP mode to suit your taste.

Turn on EFFECT to make the DSP and reverberation functions work.

Selecting the DSP mode

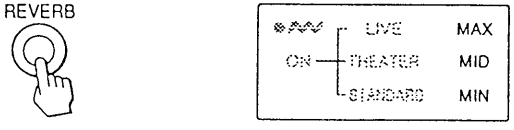
Press DSP to select the DSP mode.



DSP mode	Sound effect
LIVE	Reproduces the reflection characteristics of a large concert hall
THEATER	Reproduces the reflection characteristics of a movie theater
STANDARD	Reproduces the reflection characteristics of a standard house room

Adjusting the reverberation

Press REVERB.



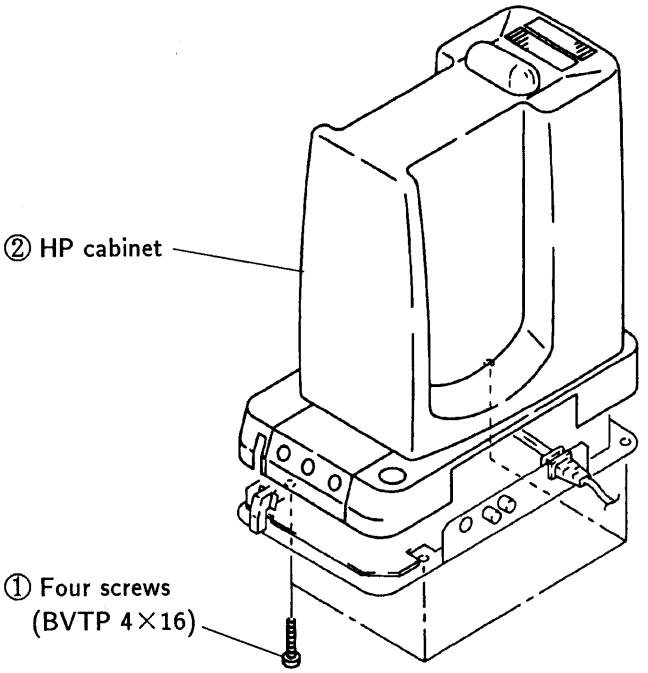
Reverberation level	Adjustment
MAX	To select the maximum level of reverberation
MID	To select the middle level of reverberation
MIN	To select the minimum level of reverberation

To turn off the sound field effect

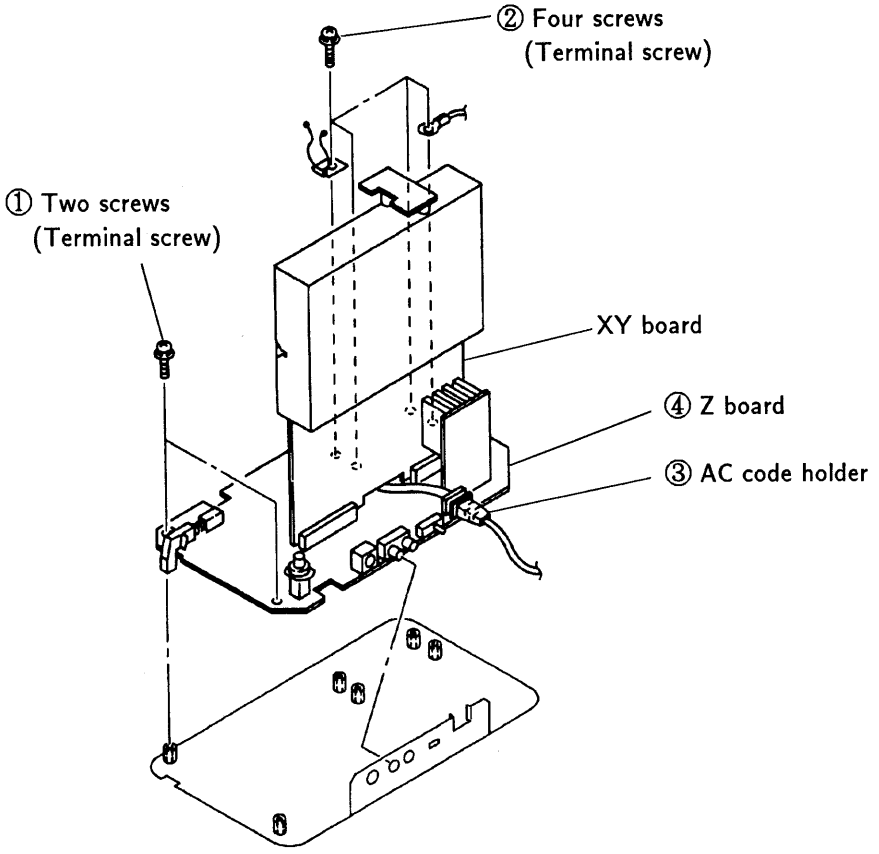
Press EFFECT.
"OFF" will appear in the display window and other indicators disappear. The sound from the headphones will become ordinary headphones sound.

SECTION 2
DISASSEMBLY

2-1. HP CABINET REMOVAL



2-2. Z BOARD REMOVAL

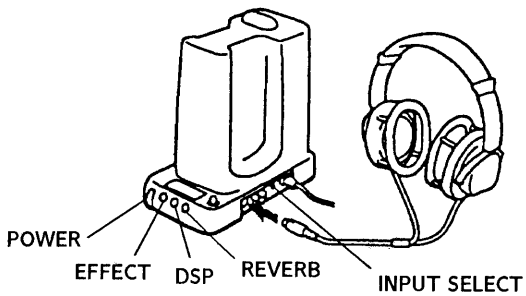


SECTION 3
DIAGNOSIS

DSP OPERATION CHECK MODE

By using this test mode, the operation of the circuits beyond DSP can be checked.

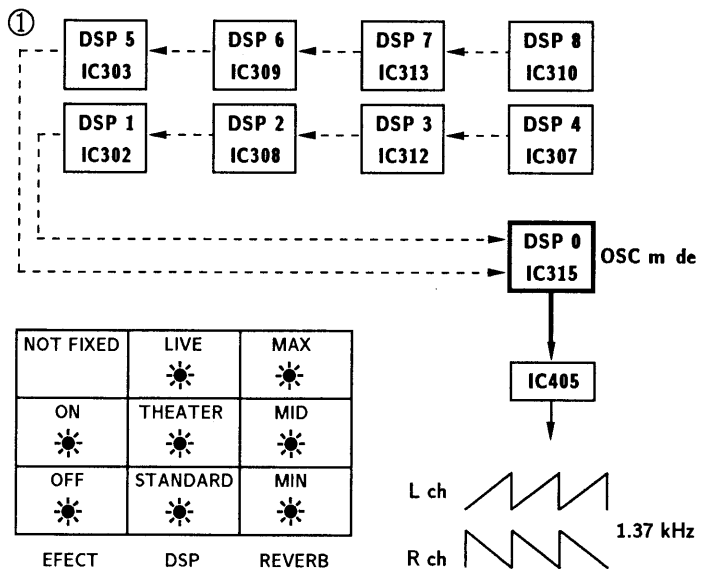
HOW TO CHECK DSP

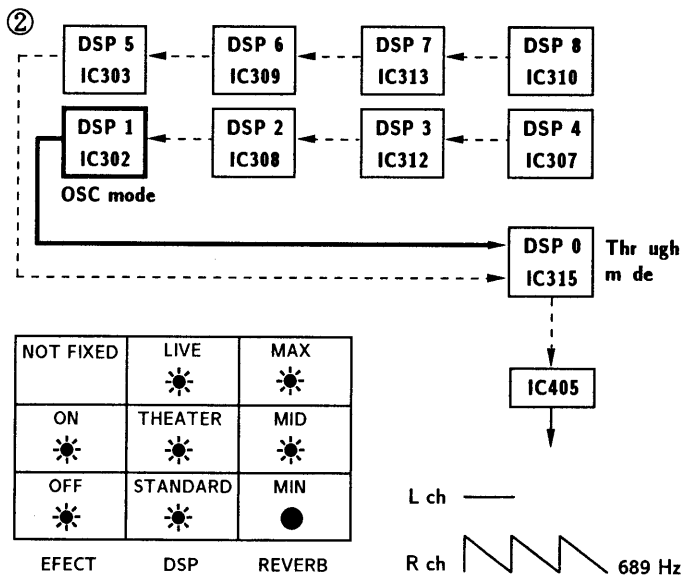


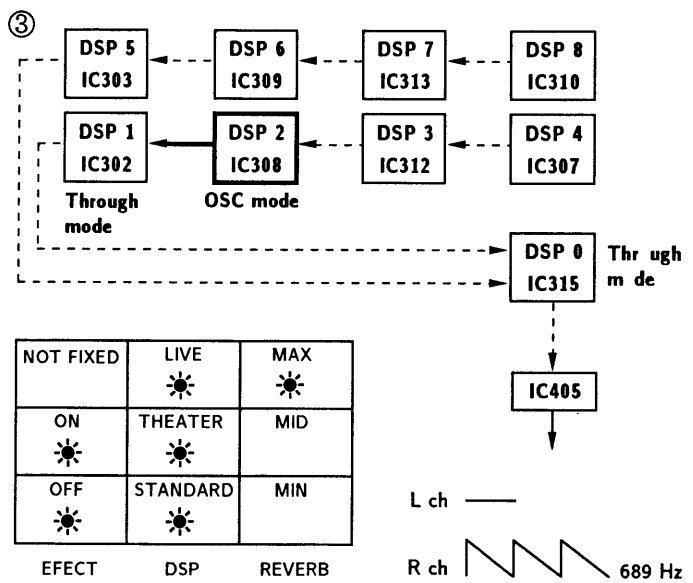
1. Turn OFF the power.
2. Set the input mode to "Infrared Reception Mode". (Removing the LINE INPUT of setting INPUT SELECT to IR.)
3. Simultaneously press the 3 keys of EFFECT, DSP and REVERB and turn ON the power with the POWER key.
4. All LEDs will light. (IR LED is not fixed.)
5. Release your fingers from the 3 keys of EFFECT, DSP and REVERB. The LEDs go out. (IR LED is not fixed.)
6. Press the DSP key. The DSP operation can be checked in order by pressing the DSP key. Each DSP to oscillation mode or through mode is set in order and each DSP operation is checked.

HOW TO EXIT THE DSP CHECK MODE

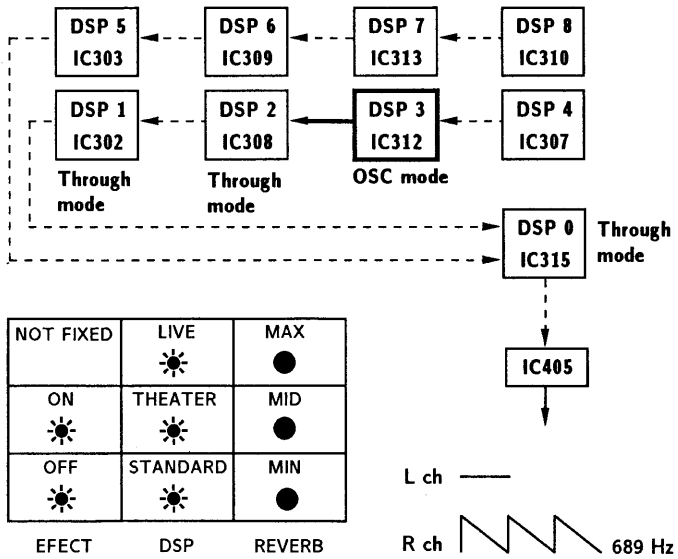
1. By pressing any other key than the DSP key, you can exit the DSP check mode.



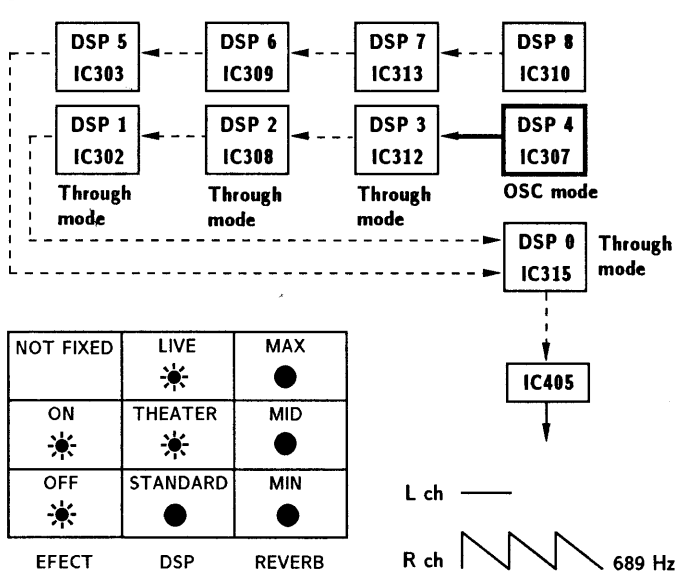




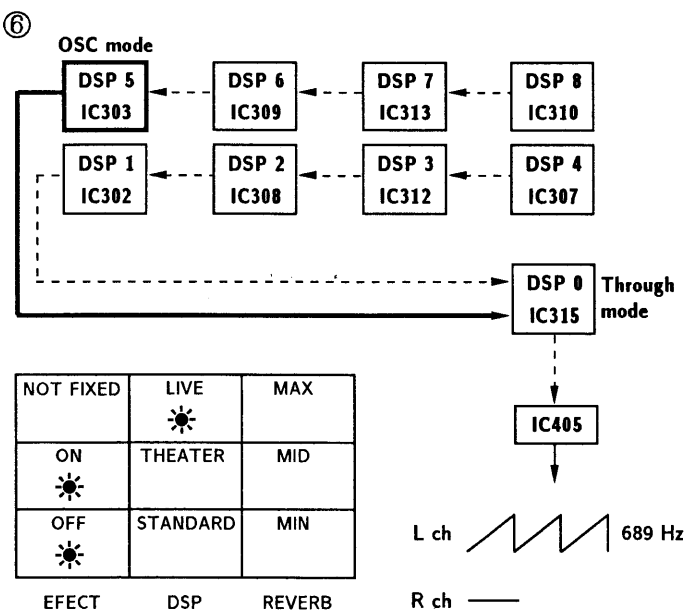
④


DSP 5 IC303
DSP 6 IC309
DSP 7 IC313
DSP 8 IC310
DSP 1 IC302
DSP 2 IC308
DSP 3 IC312
DSP 4 IC307
Through mode
Through mode
OSC mode
DSP 0 IC315
Through mode
IC405
L ch
R ch
689 Hz
NOT FIXED
LIVE
MAX
ON
THEATER
MID
OFF
STANDARD
MIN
EFECT
DSP
REVERB

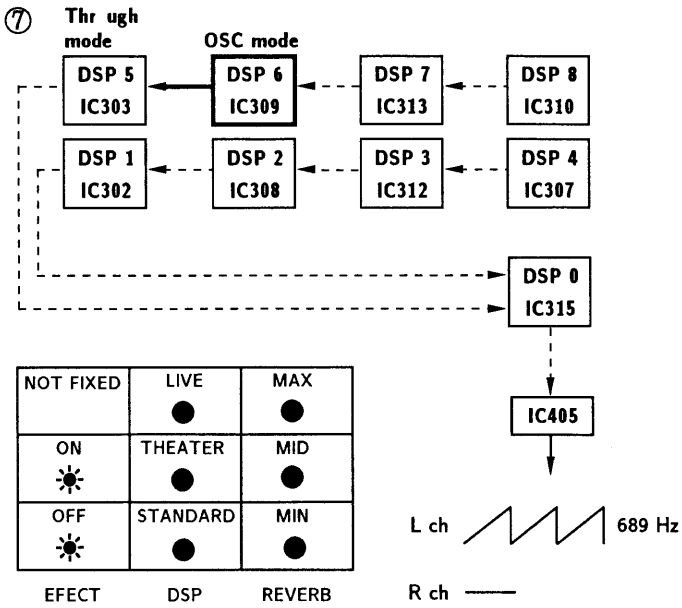
⑤


DSP 5 IC303
DSP 6 IC309
DSP 7 IC313
DSP 8 IC310
DSP 1 IC302
DSP 2 IC308
DSP 3 IC312
DSP 4 IC307
Through mode
Through mode
Through mode
OSC mode
DSP 0 IC315
Through mode
IC405
L ch
R ch
689 Hz
NOT FIXED
LIVE
MAX
ON
THEATER
MID
OFF
STANDARD
MIN
EFECT
DSP
REVERB

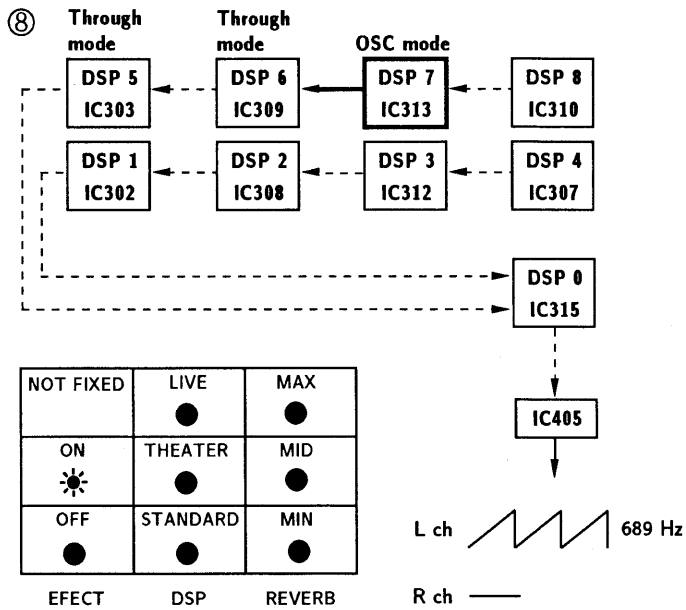
⑥


OSC mode
DSP 5 IC303
DSP 6 IC309
DSP 7 IC313
DSP 8 IC310
DSP 1 IC302
DSP 2 IC308
DSP 3 IC312
DSP 4 IC307
DSP 0 IC315
Through mode
IC405
L ch
R ch
689 Hz
NOT FIXED
LIVE
MAX
ON
THEATER
MID
OFF
STANDARD
MIN
EFECT
DSP
REVERB

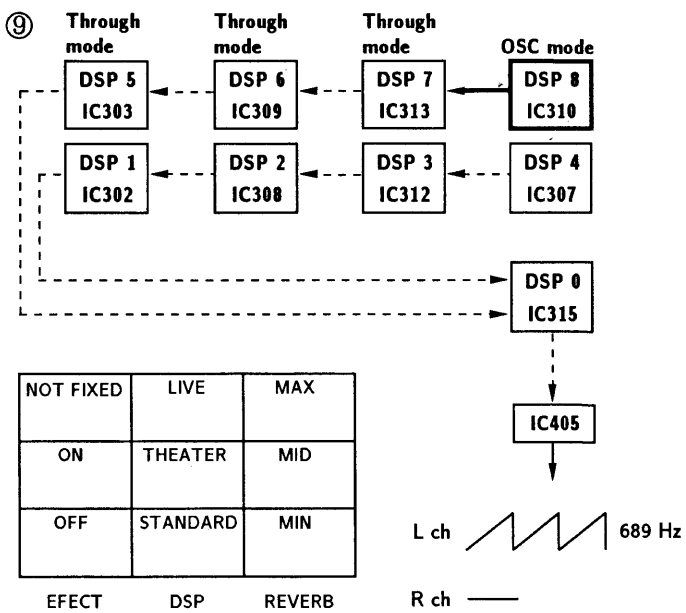
⑦


Thr ugh mode
OSC mode
DSP 5 IC303
DSP 6 IC309
DSP 7 IC313
DSP 8 IC310
DSP 1 IC302
DSP 2 IC308
DSP 3 IC312
DSP 4 IC307
DSP 0 IC315
IC405
L ch
R ch
689 Hz
NOT FIXED
LIVE
MAX
ON
THEATER
MID
OFF
STANDARD
MIN
EFECT
DSP
REVERB

⑧


Through mode
Through mode
OSC mode
DSP 5 IC303
DSP 6 IC309
DSP 7 IC313
DSP 8 IC310
DSP 1 IC302
DSP 2 IC308
DSP 3 IC312
DSP 4 IC307
DSP 0 IC315
IC405
L ch
R ch
689 Hz
NOT FIXED
LIVE
MAX
ON
THEATER
MID
OFF
STANDARD
MIN
EFECT
DSP
REVERB

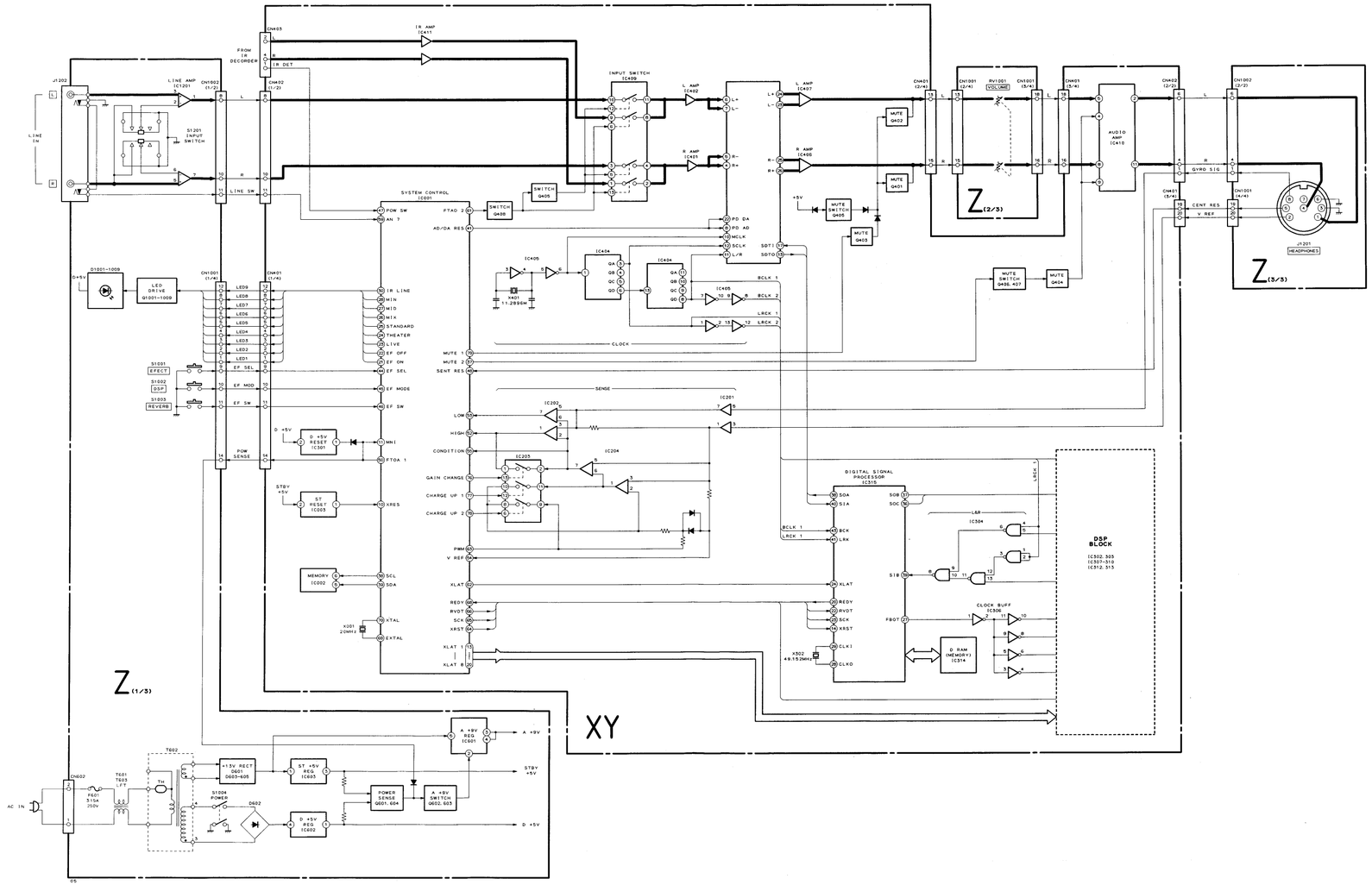
⑨


Through mode
Through mode
Through mode
OSC mode
DSP 5 IC303
DSP 6 IC309
DSP 7 IC313
DSP 8 IC310
DSP 1 IC302
DSP 2 IC308
DSP 3 IC312
DSP 4 IC307
DSP 0 IC315
IC405
L ch
R ch
689 Hz
NOT FIXED
LIVE
MAX
ON
THEATER
MID
OFF
STANDARD
MIN
EFECT
DSP
REVERB

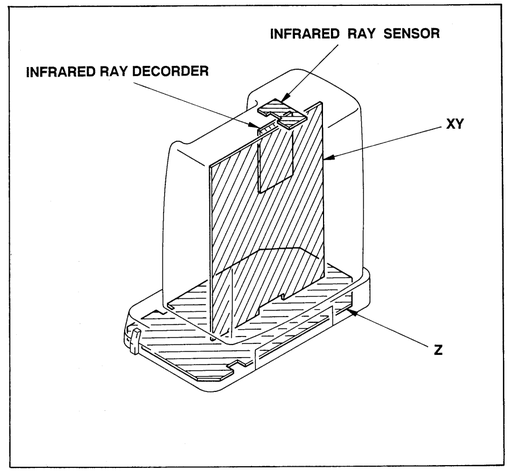
VIP-1000
TMR-IF310/VIP-1000H

SECTION 4
DIAGRAMS

4-1. BLOCK DIAGRAM



4-2. CIRCUIT BOARDS LOCATION



4-3. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytic and tantalums.
- All resistors are in ohms.
  kΩ =1000Ω, MΩ =1000KΩ
- Indication of resistance, which does not have one for rating electrical power, is as follows.

  Pitch: 5 mm
  Rating electrical power ¼ W (CHIP: 1/10W)

- ⊣⊢ : nonflammable resistor.
- △ : internal component.
- ▭ : panel designation, or adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- Readings are taken with a 10MΩ digital multimeter.
- Voltage are dc with respect to ground unless otherwise noted.
- Voltage variations may be noted due to normal production tolerances.
- All voltages are in V.
- * : Can not be measured.
- Circled numbers are waveform references.
- ▬▬ : B+ bus.
- ▬ ▬ : B − bus.
- ▒▒▒ : signal path.

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

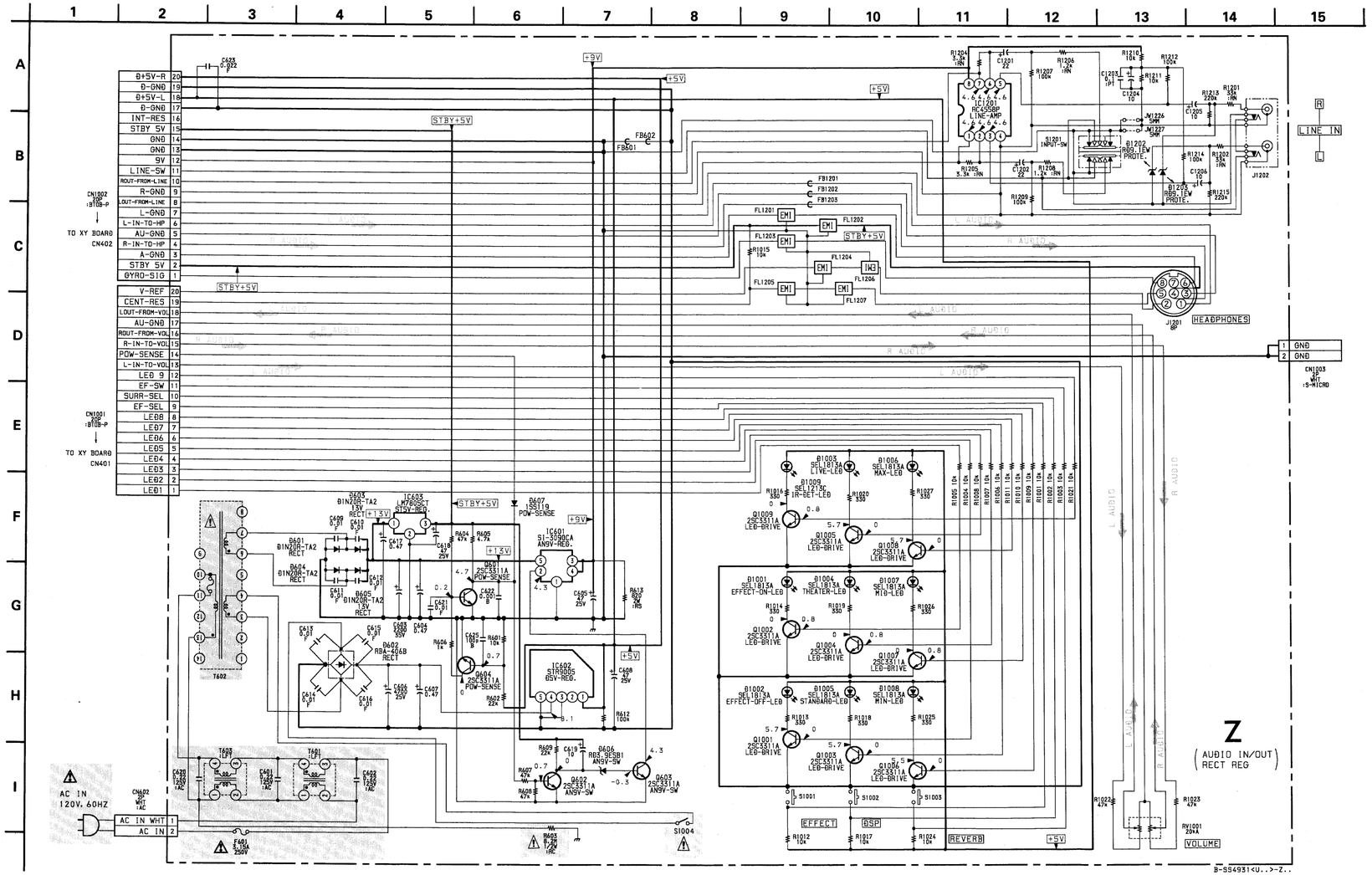
Reference information

RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
	: RW	NONFLAMMABLE WIREWOUND
	: ※	ADJUSTMENT RESISTOR
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

Schematic diagram

Z board ➡

(1) Schematic Diagram of Z Board



Z [AUDIO IN/OUT RECT REG]

Z BOARD

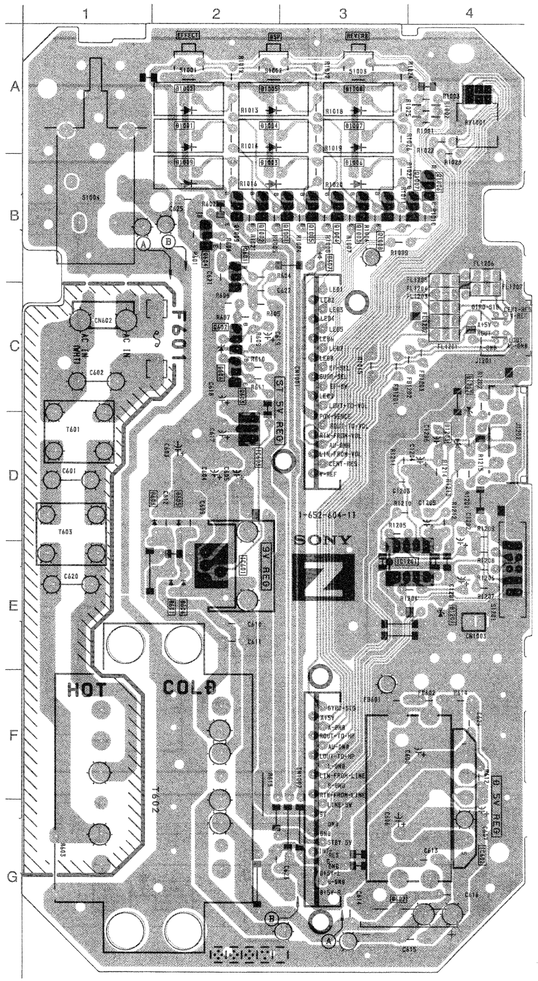
IC	
IC601	E – 2
IC602	F – 4
IC603	D – 2
IC1201	E – 3

TRANSISTOR	
Q601	B – 2
Q602	C – 2
Q603	C – 2
Q604	B – 2
Q1001	B – 3
Q1002	B – 2
Q1003	B – 3
Q1004	B – 3
Q1005	B – 3
Q1006	B – 4
Q1007	B – 4
Q1008	B – 3
Q1009	B – 2

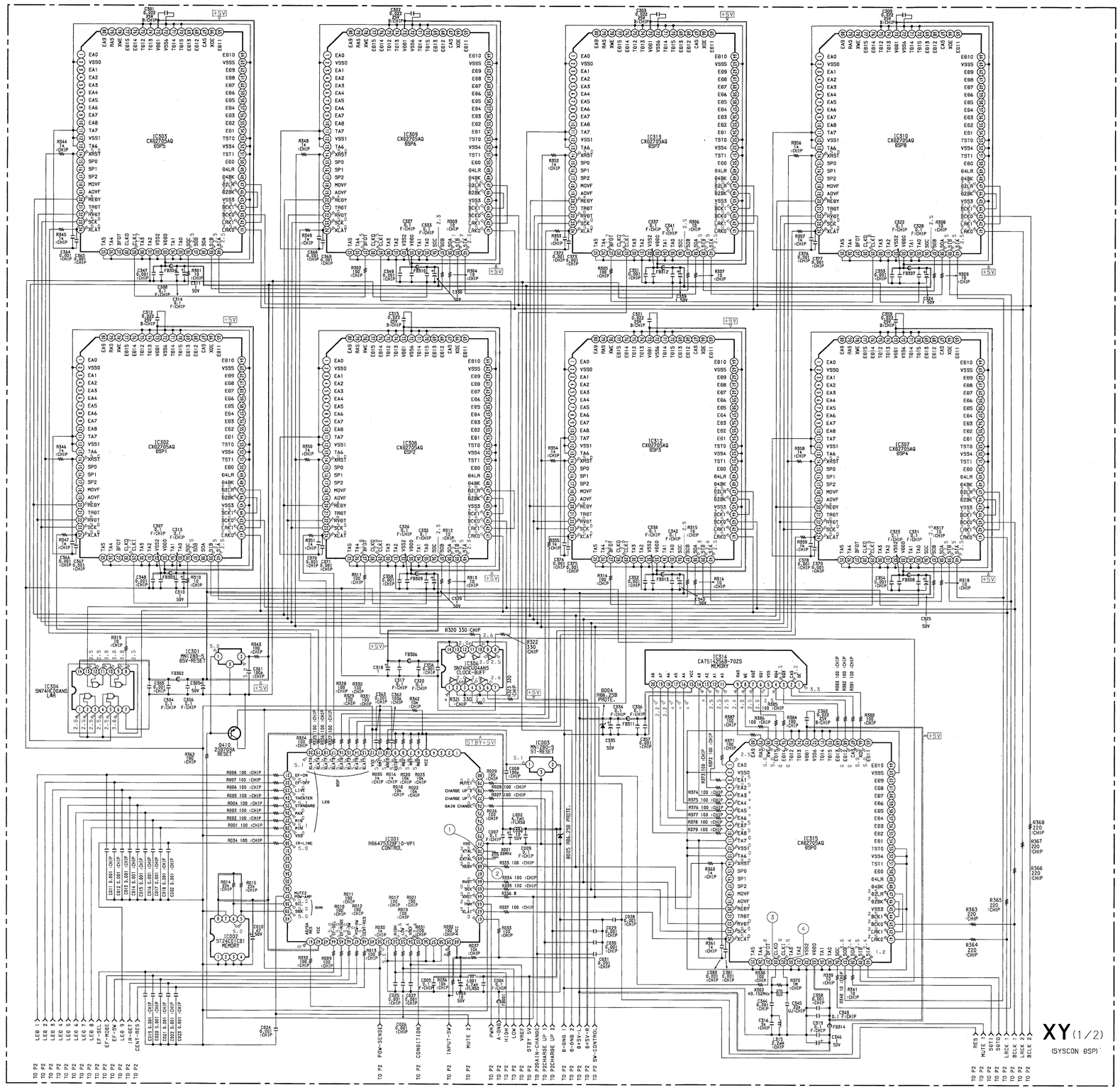
DIODE	
D601	E – 2
D602	G – 4
D603	D – 1
D604	E – 2
D605	D – 2
D606	C – 2
D607	B – 3
D1001	A – 2
D1002	A – 2
D1003	B – 2
D1004	A – 2
D1005	A – 2
D1006	B – 3
D1007	A – 3
D1008	A – 3
D1009	B – 2
D1202	D – 4
D1203	D – 4

VARIABLE RESISTOR	
RV1001	A – 4

– Z Board –



(2) Schematic Diagram of XY Board (1/2)



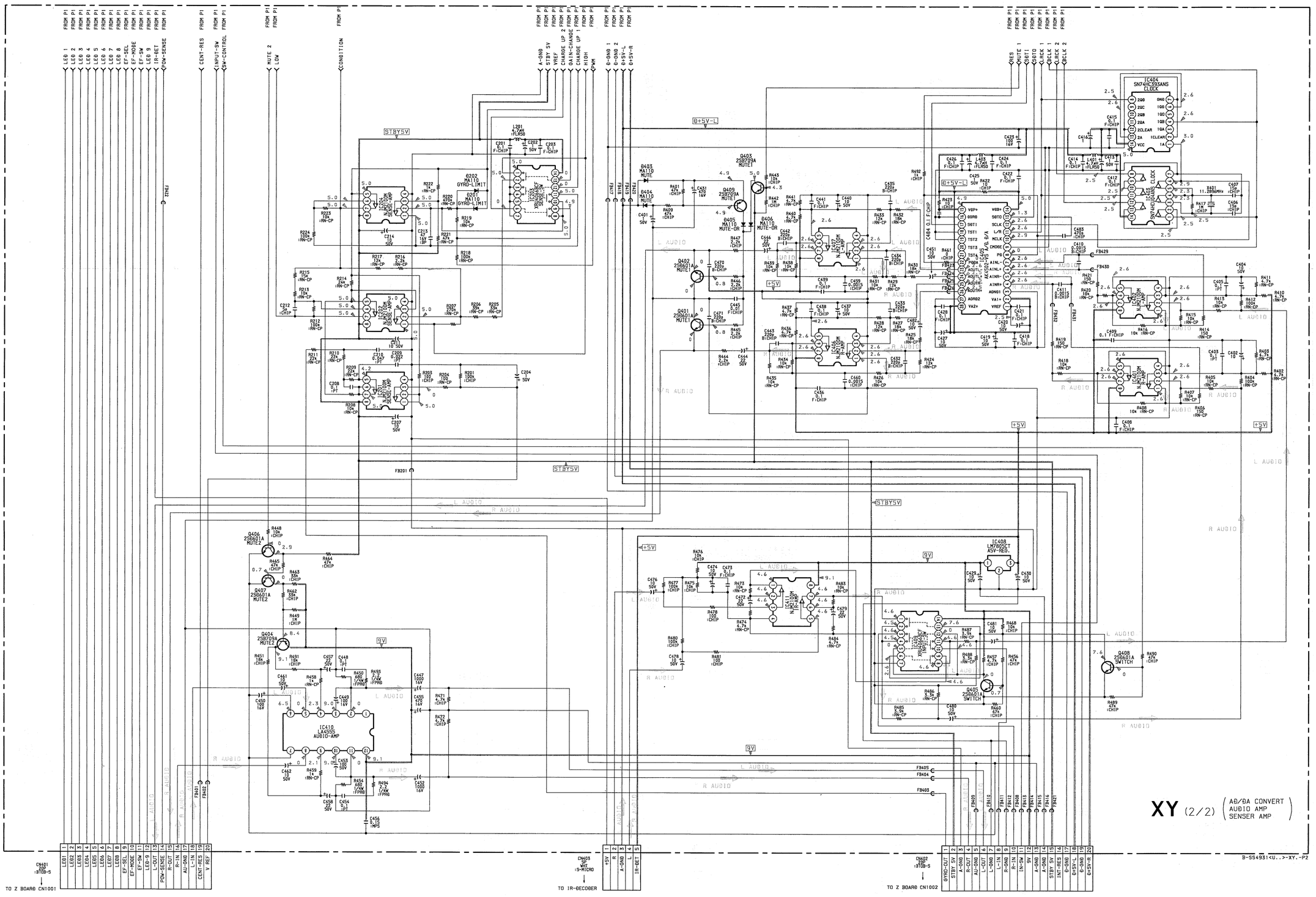
• XY BOARD WAVEFORMS

① 20 MHz 1.6 Vp-p (H)	② 20 MHz 0.8 Vp-p (H)	③ 49.152 MHz 0.3 Vp-p (H)
④ 49.152 MHz 0.1 Vp-p (H)		

Schematic diagram ← XY board (1/2)

Schematic diagram XY board (2/2) →

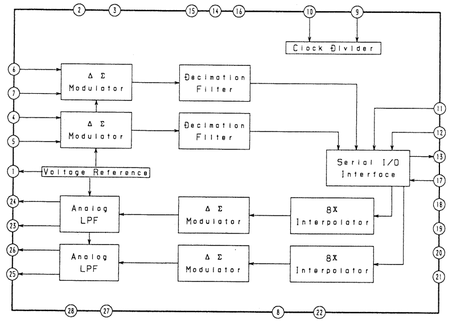
(3) Schematic Diagram of XY Board (2/2)



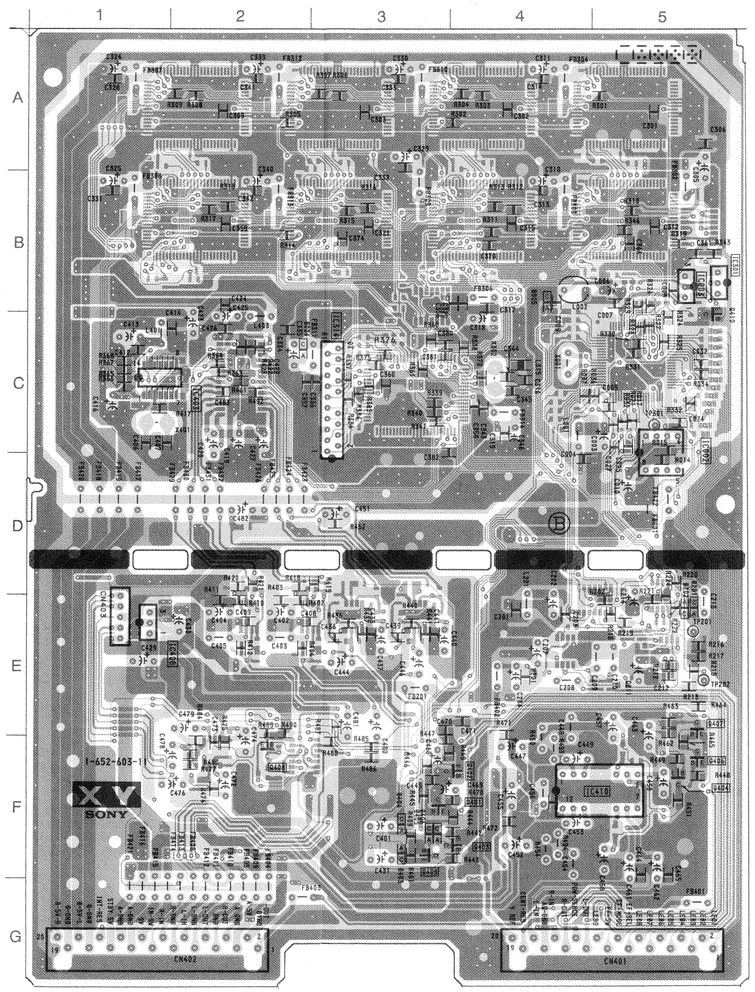
VIP-1000
TMR-IF310/VIP-1000H

XY [SYSCON DSP, AD/DA CONVERT
AUDIO AMP, SENSER AMP]

XY Board IC405 AK4502-VS



– XY Board (Conductor Side) –



XY BOARD

IC	Conductor Side	Component Side
IC001		C – 1
IC002	C – 5	C – 1
IC003	B – 5	B – 1
IC201		E – 2
IC202		E – 1
IC203		D – 2
IC204		D – 1
IC301	B – 5	B – 1
IC302		B – 1
IC303		A – 1
IC304		B – 1
IC306		B – 3
IC307		B – 4
IC308		B – 2
IC309		A – 2
IC310		A – 4
IC312		B – 3
IC313		A – 3
IC314	C – 3	C – 3
IC315		C – 3
IC401		D – 4
IC402		D – 4
IC403	C – 1	
IC404		C – 5
IC405		C – 4
IC406		D – 3
IC407		D – 3
IC408	E – 1	E – 5
IC409		E – 4
IC410	F – 5	F – 2
IC411		E – 4

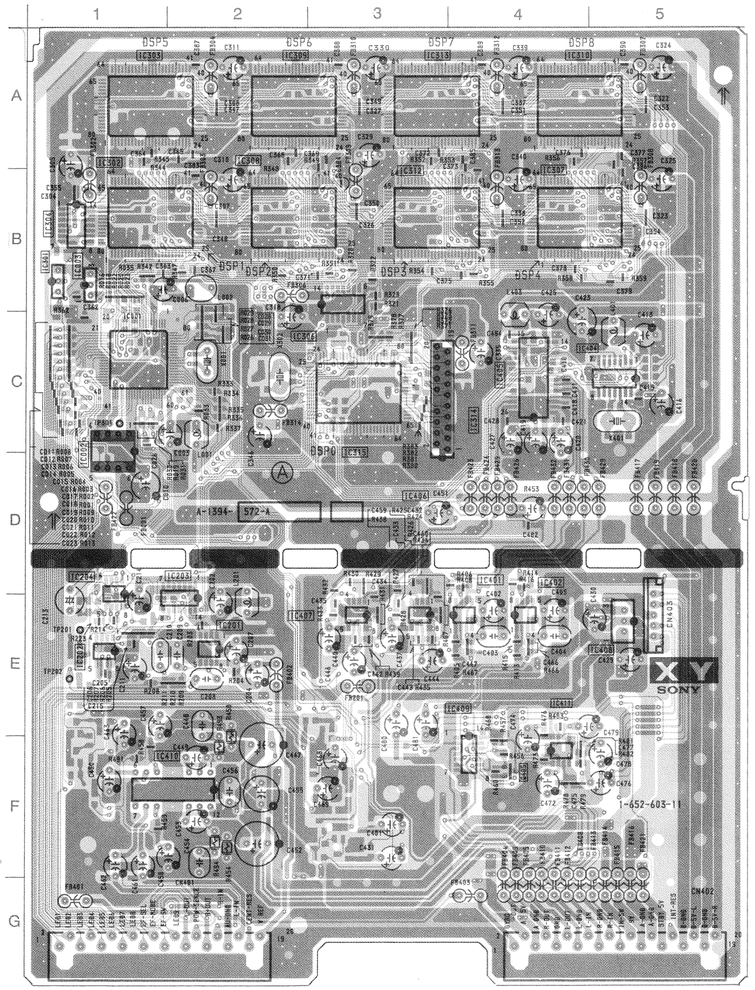
TRANSISTOR	Conductor Side	Component Side
Q401	F – 3	
Q402	F – 4	
Q403	F – 4	
Q404	F – 5	
Q405		F – 4
Q406	F – 5	
Q407	E – 5	
Q408	F – 2	
Q409	F – 3	

DIODE	Conductor Side	Component Side
D004	C – 2	
D005	B – 4	
D201	E – 5	
D202	E – 5	
D403	F – 3	
D404	F – 3	
D405	F – 3	
D406	F – 3	

CRYSTAL	Conductor Side	Component Side
X001		C – 2
X302		C – 2
X401		C – 5

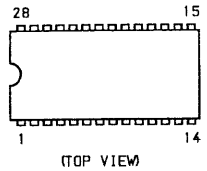
● : Pattern from the side which enables seeing.
● : Pattern of the rear side.

– XY Board (Component Side) –

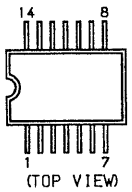


4-4. SEMICONDUCTORS

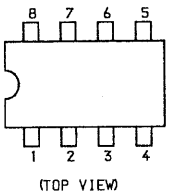
AK4502-VS-E1



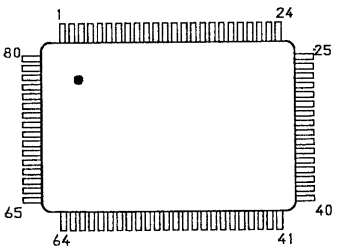
SN74HC001NS-E20
SN74HC393ANS-E20



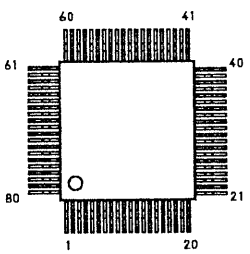
RC4558P
ST24C01CB1
μPC4558C



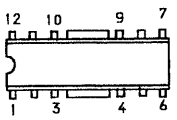
CXÐ2705AQ



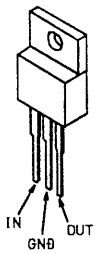
HÐ6435328F-VP1



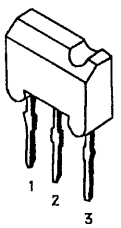
LA4555



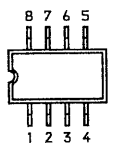
LM7805CT



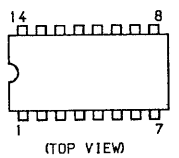
MN1280-S



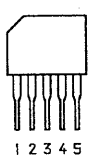
NJM2100M-A



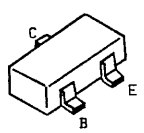
SN74HCU04ANS
XRU4066BCF



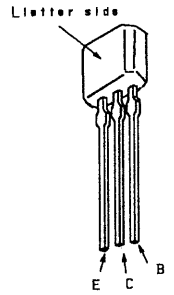
STR9005



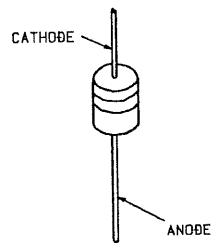
2SA1162-G
2SB709A
2SÐ601A
2SÐ601A-Q



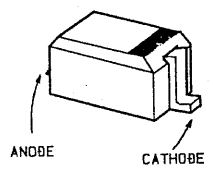
2SC3311A
2SC2785-HFE



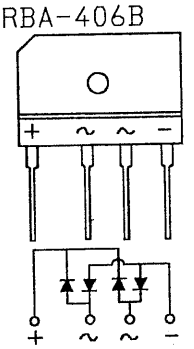
ÐIN20R



MA110
RÐ6.2S-B



RBA-406B

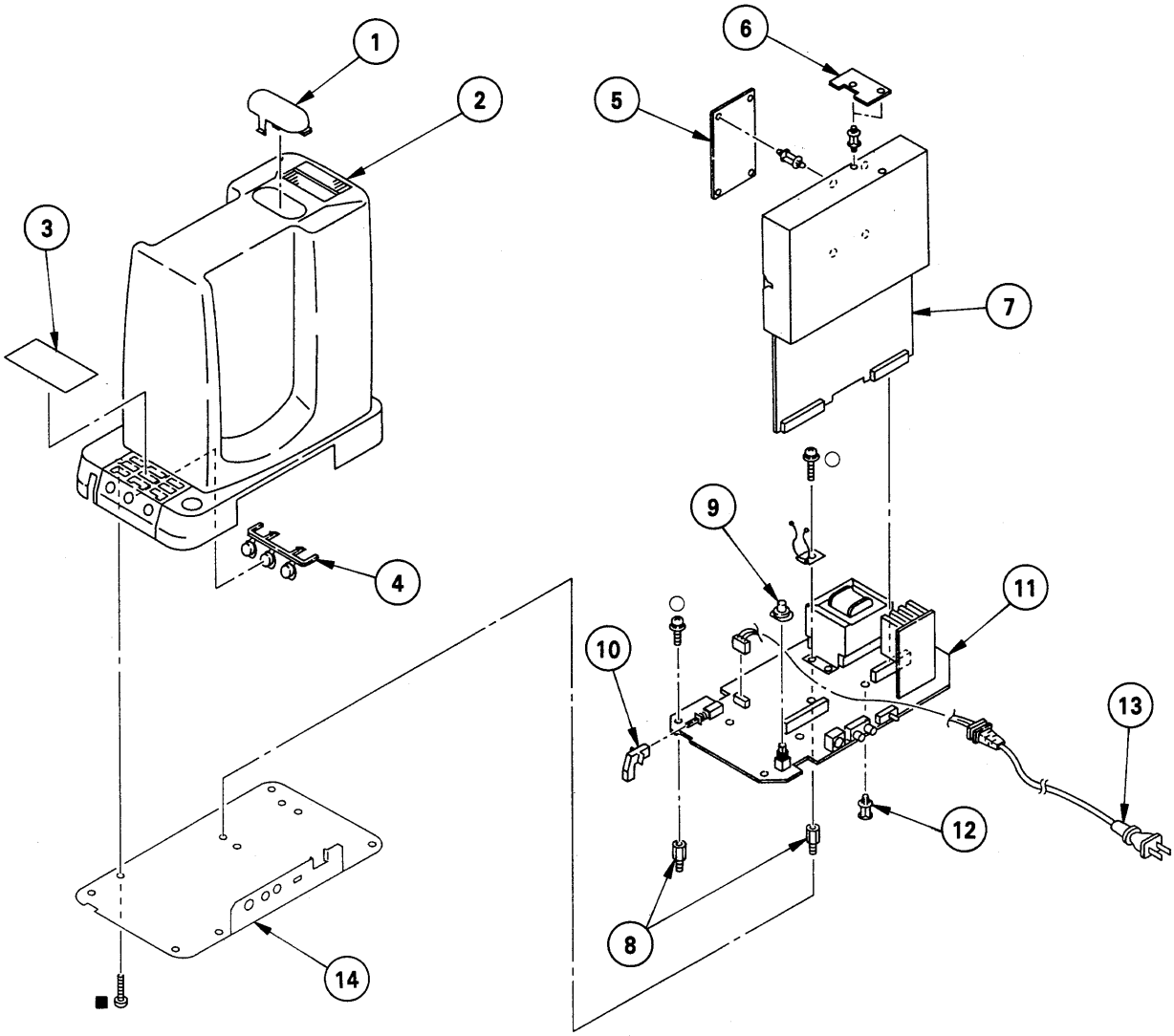


SECTION 5
EXPLODED VIEW

NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

■: BVTP4 × 16 7-685-663-79
○: SCREW, TERMINAL 7-682-560-04



REF.NO.	PART NO.	DESCRIPTION	REMARK
1	4-045-741-01	COVER, INFRARED RECEIVER	
2	4-045-747-01	CABINET, HP	
3	*4-045-743-01	LABEL, CONTROL	
4	4-045-746-01	BUTTON, MULTI	
5	1-810-666-11	DECORDER, INFRARED RAY	
6	1-810-667-11	SENSOR, INFRARED RAY	
7	*A-1394-572-A	XY BOARD, COMPLETE	
8	4-046-390-01	SUPPORT	
9	4-045-742-01	COVER, VOLUME	
10	4-045-745-01	BUTTON, POWER	
11	*A-1390-441-A	Z BOARD, COMPLETE	
12	*3-687-542-41	SPACER, PC BOARD SPACE	
13	⚠1-696-002-12	CORD, POWER (WITH NOISE FILTER) 7A/125V	
14	4-045-744-01	COVER, BOTTOM	

Z

SECTION 6
ELECTRICAL PARTS LIST

NOTE:

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

When indicating parts by reference number, please include the board name.

CAPACITORS
- MF : μF, PF : μμF

COILS
- MMH : mH, UH : μH

RESISTORS
- All resistors are in ohms
- F : nonflammable

REF.NO.	PART NO.	DESCRIPTION			REMARK
	*A-1390-441-A	Z BOARD, COMPLETE **********			
	4-045-740-01	CASE, LAMP			
	4-369-267-01	SPACER, MICA			
	4-382-854-11	SCREW (M3X10), P, SW (+)			
		<CAPACITOR>			
C601	⚠ 1-136-346-51	FILM	0.22MF	20% 125V	
C602	⚠ 1-136-346-51	FILM	0.22MF	20% 125V	
C603	1-126-953-11	ELECT	2200MF	20% 35V	
C604	1-124-902-00	ELECT	0.47MF	20% 50V	
C605	1-104-664-11	ELECT	47MF	20% 25V	
C606	1-128-548-11	ELECT	4700MF	20% 25V	
C607	1-124-902-00	ELECT	0.47MF	20% 50V	
C608	1-104-664-11	ELECT	47MF	20% 25V	
C609	1-164-096-11	CERAMIC	0.01MF	50V	
C610	1-164-096-11	CERAMIC	0.01MF	50V	
C611	1-164-096-11	CERAMIC	0.01MF	50V	
C612	1-164-096-11	CERAMIC	0.01MF	50V	
C613	1-164-096-11	CERAMIC	0.01MF	50V	
C614	1-164-096-11	CERAMIC	0.01MF	50V	
C615	1-164-096-11	CERAMIC	0.01MF	50V	
C616	1-164-096-11	CERAMIC	0.01MF	50V	
C617	1-124-902-00	ELECT	0.47MF	20% 50V	
C618	1-104-664-11	ELECT	47MF	20% 25V	
C619	1-126-964-11	ELECT	10MF	20% 50V	
C620	⚠ 1-136-346-51	FILM	0.22MF	20% 125V	
C621	1-164-096-11	CERAMIC	0.01MF	50V	
C622	1-164-085-11	CERAMIC	0.001MF	10% 50V	
C623	1-164-097-11	CERAMIC	0.022MF	50V	
C625	1-164-073-11	CERAMIC	100PF	10% 50V	
C1201	1-126-233-11	ELECT	22MF	20% 50V	
C1202	1-126-233-11	ELECT	22MF	20% 50V	
C1203	1-137-399-11	FILM	0.1MF	5% 50V	
C1204	1-126-964-11	ELECT	10MF	20% 50V	
C1205	1-126-964-11	ELECT	10MF	20% 50V	
C1206	1-126-964-11	ELECT	10MF	20% 50V	
		<CONNECTOR>			
CN602	*1-580-843-11	PIN, CONNECTOR (POWER)			
CN1001	1-573-298-21	CONNECTOR, BOARD TO BOARD 20P			
CN1002	1-573-298-21	CONNECTOR, BOARD TO BOARD 20P			
CN1003	1-564-505-11	PLUG, CONNECTOR 2P			
		<DIODE>			
D601	8-719-510-48	DIODE D1N20R			
D602	8-719-312-47	DIODE RBA-406B			
D603	8-719-510-48	DIODE D1N20R			
D604	8-719-510-48	DIODE D1N20R			
D605	8-719-510-48	DIODE D1N20R			
D606	8-719-109-71	DIODE RD3.9ESB1			
D607	8-719-911-19	DIODE 1SS119			
D1001	8-719-302-17	DIODE SEL1813A-D			
D1002	8-719-302-17	DIODE SEL1813A-D			
D1003	8-719-302-17	DIODE SEL1813A-D			
D1004	8-719-302-17	DIODE SEL1813A-D			
D1005	8-719-302-17	DIODE SEL1813A-D			
D1006	8-719-302-17	DIODE SEL1813A-D			
D1007	8-719-302-17	DIODE SEL1813A-D			
D1008	8-719-302-17	DIODE SEL1813A-D			
D1009	8-719-301-63	DIODE SEL1213C-D			
D1202	8-719-108-12	DIODE RD9.1EW			
D1203	8-719-108-12	DIODE RD9.1EW			
		<FUSE>			
F601	⚠ 1-576-107-22	FUSE; 3.15A/250V			
	1-533-223-11	HOLDER, FUSE; F601			
		<FERRITE BEAD>			
FB601	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB602	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB1201	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB1202	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB1203	1-412-911-11	INDUCTOR, FERRITE BEAD			
		<FILTER>			
FL1201	1-236-071-11	ENCAPSULATED COMPONENT			
FL1202	1-236-071-11	ENCAPSULATED COMPONENT			
FL1203	1-236-071-11	ENCAPSULATED COMPONENT			
FL1204	1-236-071-11	ENCAPSULATED COMPONENT			
FL1205	1-236-071-11	ENCAPSULATED COMPONENT			
FL1206	1-162-617-11	CERAMIC	0.022MF		50V
FL1207	1-162-617-11	CERAMIC	0.022MF		50V
		<IC>			
IC601	8-749-920-58	IC SI-3090CA			
IC602	8-749-990-05	IC STR9005			
IC603	8-759-924-12	IC LM7805CT			
IC1201	8-759-145-58	IC UPC4558C			
		<JACK>			
J1201	1-573-112-11	SOCKET, CONNECTOR 8P			
J1202	1-766-599-11	JACK BLOCK, PIN (L TYPE) 2P			

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

Z XY

REF.NO.	PART NO.	DESCRIPTION				REMARK
		<TRANSISTOR>				
Q601	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q602	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q603	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q604	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q1001	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q1002	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q1003	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q1004	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q1005	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q1006	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q1007	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q1008	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q1009	8-729-119-78	TRANSISTOR 2SC2785-HFE				
		<RESISTOR>				
R601	1-249-429-11	CARBON	10K	5%	1/4W	
R602	1-249-433-11	CARBON	22K	5%	1/4W	
R603 ⚠	1-202-893-91	SOLID	8.2M	20%	1/2W	
R604	1-249-437-11	CARBON	47K	5%	1/4W	
R605	1-249-425-11	CARBON	4.7K	5%	1/4W	
R606	1-249-417-11	CARBON	1K	5%	1/4W	
R607	1-249-437-11	CARBON	47K	5%	1/4W	
R608	1-249-437-11	CARBON	47K	5%	1/4W	
R609	1-249-433-11	CARBON	22K	5%	1/4W	
R612	1-249-441-11	CARBON	100K	5%	1/4W	
R613	1-216-456-00	METAL OXIDE	820	5%	2W	F
R1001	1-249-429-11	CARBON	10K	5%	1/4W	
R1002	1-249-429-11	CARBON	10K	5%	1/4W	
R1003	1-249-429-11	CARBON	10K	5%	1/4W	
R1004	1-249-429-11	CARBON	10K	5%	1/4W	
R1005	1-249-429-11	CARBON	10K	5%	1/4W	
R1006	1-249-429-11	CARBON	10K	5%	1/4W	
R1007	1-249-429-11	CARBON	10K	5%	1/4W	
R1008	1-249-429-11	CARBON	10K	5%	1/4W	
R1009	1-249-429-11	CARBON	10K	5%	1/4W	
R1010	1-249-429-11	CARBON	10K	5%	1/4W	
R1011	1-249-429-11	CARBON	10K	5%	1/4W	
R1012	1-249-429-11	CARBON	10K	5%	1/4W	
R1013	1-249-411-11	CARBON	330	5%	1/4W	
R1014	1-249-411-11	CARBON	330	5%	1/4W	
R1015	1-249-429-11	CARBON	10K	5%	1/4W	
R1016	1-249-411-11	CARBON	330	5%	1/4W	
R1017	1-249-429-11	CARBON	10K	5%	1/4W	
R1018	1-249-411-11	CARBON	330	5%	1/4W	
R1019	1-249-411-11	CARBON	330	5%	1/4W	
R1020	1-249-411-11	CARBON	330	5%	1/4W	
R1021	1-249-429-11	CARBON	10K	5%	1/4W	
R1022	1-249-437-11	CARBON	47K	5%	1/4W	
R1023	1-249-437-11	CARBON	47K	5%	1/4W	
R1024	1-249-429-11	CARBON	10K	5%	1/4W	
R1025	1-249-411-11	CARBON	330	5%	1/4W	
R1026	1-249-411-11	CARBON	330	5%	1/4W	
R1027	1-249-411-11	CARBON	330	5%	1/4W	
R1201	1-215-457-00	METAL	33K	1%	1/4W	
R1202	1-215-457-00	METAL	33K	1%	1/4W	
R1204	1-215-433-00	METAL	3.3K	1%	1/4W	
R1205	1-215-433-00	METAL	3.3K	1%	1/4W	
R1206	1-215-423-00	METAL	1.2K	1%	1/4W	
R1207	1-249-441-11	CARBON	100K	5%	1/4W	
R1208	1-215-423-00	METAL	1.2K	1%	1/4W	
R1209	1-249-441-11	CARBON	100K	5%	1/4W	
R1210	1-249-429-11	CARBON	10K	5%	1/4W	
R1211	1-249-429-11	CARBON	10K	5%	1/4W	
R1212	1-249-441-11	CARBON	100K	5%	1/4W	
R1213	1-247-887-00	CARBON	220K	5%	1/4W	
R1214	1-249-441-11	CARBON	100K	5%	1/4W	
R1215	1-247-887-00	CARBON	220K	5%	1/4W	
		<VARIABLE RESISTOR>				
RV1001	1-223-734-11	RES, VAR, CARBON 20K/20K				
		<SWITCH>				
S1001	1-571-532-21	SWITCH, TACTIL				
S1001	1-692-431-21	SWITCH, TACTILE				
S1002	1-571-532-21	SWITCH, TACTIL				
S1002	1-692-431-21	SWITCH, TACTILE				
S1003	1-571-532-21	SWITCH, TACTIL				
S1003	1-692-431-21	SWITCH, TACTILE				
S1004 ⚠	1-571-433-12	SWITCH, PUSH (AC POWER)				
S1201	1-554-798-31	SWITCH, SLIDE				
		<TRANSFORMER>				
T601 ⚠	1-423-895-11	TRANSFORMER, LINE FILTER (LFT)				
T602 ⚠	1-426-980-11	TRANSFORMER, POWER				
T603 ⚠	1-423-895-11	TRANSFORMER, LINE FILTER (LFT)				
**********						
	*A-1394-572-A	XY BOARD, COMPLETE **********				
	4-382-854-11	SCREW (M3X10), P, SW (+)				
		<CAPACITOR>				
9003	1-126-964-11	ELECT	10MF	20%	50V	
C004	1-165-319-11	CERAMIC CHIP	0.1MF		50V	
C005	1-165-319-11	CERAMIC CHIP	0.1MF		50V	
C006	1-126-964-11	ELECT	10MF	20%	50V	
C007	1-165-319-11	CERAMIC CHIP	0.1MF		50V	
C008	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C009	1-165-319-11	CERAMIC CHIP	0.1MF		50V	
C010	1-126-967-11	ELECT	47MF	20%	50V	
C011	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V	
C012	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V	
C013	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V	
C014	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V	
C015	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V	
C016	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V	
C017	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V	
C018	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V	
C019	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V	
C020	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V	
C021	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V	
C022	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V	
C023	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V	
C024	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V	
C025	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V	
C026	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V	
C027	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V	
C028	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V	
C029	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V	
C030	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V	

XY

REF.NO.	PART NO.	DESCRIPTION			REMARK
C031	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C032	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C201	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C202	1-124-903-11	ELECT	1MF	20%	50V
C203	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C204	1-124-903-11	ELECT	1MF	20%	50V
C207	1-126-964-11	ELECT	10MF	20%	50V
C208	1-137-399-11	FILM	0.1MF	5%	50V
C209	1-137-372-11	FILM	0.022MF	5%	50V
C210	1-137-374-11	FILM	0.047MF	5%	50V
C211	1-126-964-11	ELECT	10MF	20%	50V
C212	1-163-088-00	CERAMIC CHIP	5PF	0.25PF	50V
C213	1-107-701-11	ELECT	47MF	20%	16V
C214	1-126-964-11	ELECT	10MF	20%	50V
C301	1-163-037-11	CERAMIC CHIP	0.022MF	10%	25V
C302	1-163-037-11	CERAMIC CHIP	0.022MF	10%	25V
C303	1-163-037-11	CERAMIC CHIP	0.022MF	10%	25V
C304	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C305	1-126-801-11	ELECT	1MF	20%	50V
C306	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C307	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C308	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C309	1-163-037-11	CERAMIC CHIP	0.022MF	10%	25V
C310	1-126-801-11	ELECT	1MF	20%	50V
C311	1-126-801-11	ELECT	1MF	20%	50V
C312	1-163-037-11	CERAMIC CHIP	0.022MF	10%	25V
C313	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C314	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C315	1-163-037-11	CERAMIC CHIP	0.022MF	10%	25V
C316	1-163-088-00	CERAMIC CHIP	5PF	0.25PF	50V
C317	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C318	1-124-903-11	ELECT	1MF	20%	50V
C319	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C320	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C321	1-163-037-11	CERAMIC CHIP	0.022MF	10%	25V
C322	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C323	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C324	1-126-801-11	ELECT	1MF	20%	50V
C325	1-126-801-11	ELECT	1MF	20%	50V
C326	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C327	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C328	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C329	1-126-801-11	ELECT	1MF	20%	50V
C330	1-126-801-11	ELECT	1MF	20%	50V
C331	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C332	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C333	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C334	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C335	1-124-903-11	ELECT	1MF	20%	50V
C336	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C337	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C338	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C339	1-126-801-11	ELECT	1MF	20%	50V
C340	1-126-801-11	ELECT	1MF	20%	50V
C341	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C342	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C343	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C344	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C345	1-163-100-00	CERAMIC CHIP	20PF	5%	50V
C346	1-124-903-11	ELECT	1MF	20%	50V
C347	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C348	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C349	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C350	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V

REF.NO.	PART NO.	DESCRIPTION			REMARK
C351	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C352	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C353	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C354	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C355	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C356	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C357	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C358	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C359	1-163-037-11	CERAMIC CHIP	0.022MF	10%	25V
C360	1-163-037-11	CERAMIC CHIP	0.022MF	10%	25V
C361	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C362	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C363	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C364	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C365	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C366	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C367	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C368	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C369	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C370	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C371	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C372	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C373	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C374	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C375	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C376	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C377	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C378	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C379	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C380	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C381	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C401	1-124-903-11	ELECT	1MF	20%	50V
C402	1-126-964-11	ELECT	10MF	20%	50V
C403	1-137-399-11	FILM	0.1MF	5%	50V
C404	1-126-964-11	ELECT	10MF	20%	50V
C405	1-137-399-11	FILM	0.1MF	5%	50V
C406	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C407	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C408	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C409	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C410	1-163-011-11	CERAMIC CHIP	0.0015MF	10%	50V
C411	1-163-011-11	CERAMIC CHIP	0.0015MF	10%	50V
C412	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C413	1-124-903-11	ELECT	1MF	20%	50V
C414	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C415	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C416	1-124-903-11	ELECT	1MF	20%	50V
C418	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C419	1-126-964-11	ELECT	10MF	20%	50V
C420	1-126-964-11	ELECT	10MF	20%	50V
C421	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C422	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C423	1-126-933-11	ELECT	100MF	20%	16V
C424	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C425	1-124-903-11	ELECT	1MF	20%	50V
C426	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C427	1-126-964-11	ELECT	10MF	20%	50V
C428	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C429	1-126-964-11	ELECT	10MF	20%	50V
C430	1-126-964-11	ELECT	10MF	20%	50V
C431	1-126-935-11	ELECT	470MF	20%	16V
C432	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C433	1-163-001-11	CERAMIC CHIP	220PF	10%	50V

REF.NO.	PART NO.	DESCRIPTION			REMARK
C434	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C435	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C436	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C437	1-126-964-11	ELECT	10MF	20%	50V
C438	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C439	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C440	1-126-964-11	ELECT	10MF	20%	50V
C441	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C442	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C443	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C444	1-126-233-11	ELECT	22MF	20%	50V
C445	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C446	1-126-233-11	ELECT	22MF	20%	50V
C447	1-126-952-11	ELECT	1000MF	20%	16V
C448	1-137-399-11	FILM	0.1MF	5%	50V
C449	1-126-933-11	ELECT	100MF	20%	16V
C450	1-126-933-11	ELECT	100MF	20%	16V
C451	1-126-964-11	ELECT	10MF	20%	50V
C452	1-126-952-11	ELECT	1000MF	20%	16V
C453	1-124-122-11	ELECT	100MF	20%	50V
C454	1-137-399-11	FILM	0.1MF	5%	50V
C455	1-126-935-11	ELECT	470MF	20%	16V
C456	1-136-167-00	FILM	0.15MF	5%	50V
C457	1-126-233-11	ELECT	22MF	20%	50V
C458	1-126-233-11	ELECT	22MF	20%	50V
C459	1-163-145-00	CERAMIC CHIP	0.0015MF	5%	50V
C460	1-163-145-00	CERAMIC CHIP	0.0015MF	5%	50V
C461	1-126-964-11	ELECT	10MF	20%	50V
C462	1-126-964-11	ELECT	10MF	20%	50V
C470	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C471	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C472	1-126-233-11	ELECT	22MF	20%	50V
C473	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C474	1-126-964-11	ELECT	10MF	20%	50V
C476	1-126-964-11	ELECT	10MF	20%	50V
C478	1-126-964-11	ELECT	10MF	20%	50V
C479	1-126-233-11	ELECT	22MF	20%	50V
C480	1-126-964-11	ELECT	10MF	20%	50V
C481	1-126-964-11	ELECT	10MF	20%	50V
C482	1-126-964-11	ELECT	10MF	20%	50V
C483	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C484	1-165-319-11	CERAMIC CHIP	0.1MF		50V

<CONNECTOR>

CN401	1-573-301-21	CONNECTOR, BOARD TO BOARD 20P
CN402	1-573-301-21	CONNECTOR, BOARD TO BOARD 20P
CN403	*1-564-508-11	PLUG, CONNECTOR 5P

<DIODE>

D004	8-719-158-19	DIODE RD6.2SB
D005	8-719-158-19	DIODE RD6.2SB
D201	8-719-404-46	DIODE MA110
D202	8-719-404-46	DIODE MA110
D403	8-719-404-46	DIODE MA110
D404	8-719-404-46	DIODE MA110
D405	8-719-404-46	DIODE MA110
D406	8-719-404-46	DIODE MA110

<FERRITE BEAD>

FB001	1-412-911-11	INDUCTOR, FERRITE BEAD
FB201	1-412-911-11	INDUCTOR, FERRITE BEAD
FB302	1-412-911-11	INDUCTOR, FERRITE BEAD
FB303	1-412-911-11	INDUCTOR, FERRITE BEAD
FB304	1-412-911-11	INDUCTOR, FERRITE BEAD
FB306	1-412-911-11	INDUCTOR, FERRITE BEAD
FB307	1-412-911-11	INDUCTOR, FERRITE BEAD
FB308	1-412-911-11	INDUCTOR, FERRITE BEAD
FB309	1-412-911-11	INDUCTOR, FERRITE BEAD
FB310	1-412-911-11	INDUCTOR, FERRITE BEAD
FB311	1-412-911-11	INDUCTOR, FERRITE BEAD
FB312	1-412-911-11	INDUCTOR, FERRITE BEAD
FB313	1-412-911-11	INDUCTOR, FERRITE BEAD
FB314	1-412-911-11	INDUCTOR, FERRITE BEAD
FB401	1-412-911-11	INDUCTOR, FERRITE BEAD
FB402	1-412-911-11	INDUCTOR, FERRITE BEAD
FB403	1-412-911-11	INDUCTOR, FERRITE BEAD
FB404	1-412-911-11	INDUCTOR, FERRITE BEAD
FB405	1-412-911-11	INDUCTOR, FERRITE BEAD
FB408	1-412-911-11	INDUCTOR, FERRITE BEAD
FB409	1-412-911-11	INDUCTOR, FERRITE BEAD
FB410	1-412-911-11	INDUCTOR, FERRITE BEAD
FB411	1-412-911-11	INDUCTOR, FERRITE BEAD
FB412	1-412-911-11	INDUCTOR, FERRITE BEAD
FB413	1-412-911-11	INDUCTOR, FERRITE BEAD
FB414	1-412-911-11	INDUCTOR, FERRITE BEAD
FB415	1-412-911-11	INDUCTOR, FERRITE BEAD
FB416	1-412-911-11	INDUCTOR, FERRITE BEAD
FB417	1-412-911-11	INDUCTOR, FERRITE BEAD
FB418	1-412-911-11	INDUCTOR, FERRITE BEAD
FB419	1-412-911-11	INDUCTOR, FERRITE BEAD
FB420	1-412-911-11	INDUCTOR, FERRITE BEAD
FB421	1-412-911-11	INDUCTOR, FERRITE BEAD
FB422	1-412-911-11	INDUCTOR, FERRITE BEAD
FB423	1-412-911-11	INDUCTOR, FERRITE BEAD
FB424	1-412-911-11	INDUCTOR, FERRITE BEAD
FB425	1-412-911-11	INDUCTOR, FERRITE BEAD
FB426	1-412-911-11	INDUCTOR, FERRITE BEAD
FB429	1-412-911-11	INDUCTOR, FERRITE BEAD
FB430	1-412-911-11	INDUCTOR, FERRITE BEAD
FB431	1-412-911-11	INDUCTOR, FERRITE BEAD
FB432	1-412-911-11	INDUCTOR, FERRITE BEAD

<IC>

IC001	8-759-264-52	IC HD6475328F10-VP1
IC002	8-759-280-75	IC ST24C01CB1
IC003	8-759-403-44	IC MN1280-S
IC201	8-759-184-98	IC NJM2100M-A
IC202	8-759-184-98	IC NJM2100M-A
IC203	8-759-509-05	IC XRU4066BCF
IC204	8-759-184-98	IC NJM2100M-A
IC301	8-759-403-44	IC MN1280-S
IC302	8-752-352-30	IC CXD2705AQ
IC303	8-752-352-30	IC CXD2705AQ
IC304	8-759-256-59	IC HD74HC00FPEL
IC306	8-759-269-92	IC SN74HCU04ANS-E20
IC307	8-752-352-30	IC CXD2705AQ
IC308	8-752-352-30	IC CXD2705AQ
IC309	8-752-352-30	IC CXD2705AQ
IC310	8-752-352-30	IC CXD2705AQ
IC312	8-752-352-30	IC CXD2705AQ
IC313	8-752-352-30	IC CXD2705AQ
IC314	8-759-188-94	IC CAT514256B-70ZS
IC315	8-752-352-30	IC CXD2705AQ

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REF.NO.	PART NO.	DESCRIPTION	REMARK
IC401	8-759-184-98	IC NJM2100M-A	
IC402	8-759-184-98	IC NJM2100M-A	
IC403	8-759-269-92	IC SN74HCU04ANS-E20	
IC404	8-759-270-75	IC SN74HC393ANS-E20	
IC405	8-759-252-39	IC AK4502-VS-E1	
IC406	8-759-184-98	IC NJM2100M-A	
IC407	8-759-184-98	IC NJM2100M-A	
IC408	8-759-924-12	IC LM7805CT	
IC409	8-759-509-05	IC XRU4066BCF	
IC410	8-759-801-73	IC LA4555	
IC411	8-759-184-98	IC NJM2100M-A	
		<COIL>	
L001	1-410-466-41	INDUCTOR 4.7UH	
L002	1-410-466-41	INDUCTOR 4.7UH	
L201	1-410-466-41	INDUCTOR 4.7UH	
L315	1-410-196-11	INDUCTOR CHIP 2.2UH	
L401	1-410-466-41	INDUCTOR 4.7UH	
L403	1-410-466-41	INDUCTOR 4.7UH	
		<TRANSISTOR>	
Q401	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q402	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q403	8-729-216-22	TRANSISTOR 2SA1162-G	
Q404	8-729-216-22	TRANSISTOR 2SA1162-G	
Q405	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q406	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q407	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q408	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q409	8-729-216-22	TRANSISTOR 2SA1162-G	
Q410	8-729-216-22	TRANSISTOR 2SA1162-G	
		<RESISTOR>	
R001	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R002	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R003	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R004	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R005	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R006	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R007	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R008	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R009	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R010	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R011	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R012	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R013	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R014	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R015	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R016	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R017	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R018	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R019	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R020	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R021	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R022	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R023	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R026	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R027	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R028	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R029	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R030	1-216-049-00	METAL GLAZE 1K 5% 1/10W	

REF.NO.	PART NO.	DESCRIPTION	REMARK
R031	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R032	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R033	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R034	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R035	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R036	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R037	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R201	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R203	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R204	1-216-627-11	METAL CHIP 100 0.50% 1/10W	
R205	1-216-687-11	METAL CHIP 33K 0.50% 1/10W	
R206	1-216-689-11	METAL CHIP 39K 0.50% 1/10W	
R207	1-218-762-11	METAL CHIP 270K 0.50% 1/10W	
R208	1-216-675-11	METAL CHIP 10K 0.50% 1/10W	
R209	1-216-683-11	METAL CHIP 22K 0.50% 1/10W	
R210	1-216-683-11	METAL CHIP 22K 0.50% 1/10W	
R211	1-216-683-11	METAL CHIP 22K 0.50% 1/10W	
R212	1-216-699-11	METAL CHIP 100K 0.50% 1/10W	
R213	1-216-675-11	METAL CHIP 10K 0.50% 1/10W	
R214	1-216-684-91	METAL CHIP 24K 0.50% 1/10W	
R215	1-216-679-11	METAL CHIP 15K 0.50% 1/10W	
R216	1-216-659-11	METAL CHIP 2.2K 0.50% 1/10W	
R217	1-216-677-11	METAL CHIP 12K 0.50% 1/10W	
R218	1-216-699-11	METAL CHIP 100K 0.50% 1/10W	
R219	1-216-675-11	METAL CHIP 10K 0.50% 1/10W	
R220	1-218-768-11	METAL CHIP 470K 0.50% 1/10W	
R221	1-216-691-11	METAL CHIP 47K 0.50% 1/10W	
R222	1-216-651-11	METAL CHIP 1K 0.50% 1/10W	
R223	1-216-675-11	METAL CHIP 10K 0.50% 1/10W	
R224	1-216-699-11	METAL CHIP 100K 0.50% 1/10W	
R301	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R302	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R303	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R304	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R305	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R306	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R307	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R308	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R309	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R310	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R311	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R312	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R313	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R314	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R315	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R316	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R317	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R318	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R319	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R320	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R321	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R322	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R323	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R324	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R325	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R326	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R327	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R328	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R329	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R330	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R331	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R332	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R333	1-216-025-00	METAL GLAZE 100 5% 1/10W	

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REF.NO.	PART NO.	DESCRIPTION				REMARK
R334	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R335	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R337	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R338	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R339	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R340	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R341	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R342	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R343	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R344	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R345	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R346	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R347	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R348	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R349	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R350	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R351	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R352	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R353	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R354	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R355	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R356	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R357	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R358	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R359	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R360	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R361	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R362	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R363	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R364	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R365	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R366	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R367	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R368	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R370	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R371	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R372	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R373	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R374	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R375	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R376	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R377	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R378	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R379	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R380	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R381	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R382	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R383	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R384	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R385	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R386	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R387	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R401	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R402	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R403	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R404	1-216-699-11	METAL CHIP	100K	0.50%	1/10W	
R405	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R406	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R407	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R408	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R409	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R410	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R411	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R412	1-216-699-11	METAL CHIP	100K	0.50%	1/10W	
R413	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R414	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R415	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R416	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R417	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R418	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R419	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R420	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R421	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R422	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R423	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R424	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	
R425	1-208-812-11	METAL CHIP	18K	0.50%	1/10W	
R426	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R427	1-208-812-11	METAL CHIP	18K	0.50%	1/10W	
R428	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	
R429	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	
R430	1-208-812-11	METAL CHIP	18K	0.50%	1/10W	
R431	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R432	1-208-812-11	METAL CHIP	18K	0.50%	1/10W	
R433	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	
R434	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R435	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R436	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R437	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R438	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R439	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R440	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R441	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R442	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R443	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R444	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R445	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R446	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R447	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R448	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R449	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R450	1-247-711-11	CARBON	680	5%	1/4W	F
R451	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R454	1-247-711-11	CARBON	680	5%	1/4W	F
R456	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R457	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R458	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R459	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R460	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R461	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R462	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R463	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R464	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R465	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R468	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R471	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R472	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R473	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R474	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R475	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R476	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R477	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R478	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R480	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R481	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R483	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R484	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

XY

REF.NO.	PART NO.	DESCRIPTION				REMARK
R485	1-216-665-11	METAL CHIP	3.9K	0.50%	1/10W	
R486	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W	
R487	1-216-665-11	METAL CHIP	3.9K	0.50%	1/10W	
R488	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W	
R489	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R490	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R491	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R492	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R493	1-249-385-11	CARBON	2.2	5%	1/4W	F
R494	1-249-385-11	CARBON	2.2	5%	1/4W	F
		<CRYSTAL>				
X001	1-567-928-11	VIBLATOR, CERAMIC				
X302	1-579-692-31	VIBRATOR, CRYSTAL				
X401	1-579-178-11	VIBRATOR, CRYSTAL				
		**********				
		MISCELLANEOUS				
		**********				
⚠	1-696-002-12	CORD, POWER (WITH NOISE FILTER) 7A/125V				
	1-810-666-11	DECORDER, INFRARED RAY				
	1-810-667-11	SENSOR, INFRARED RAY				
		**********				
		ACCESSORIES AND PACKING MATERIALS				
		**********				
⚠	1-465-609-21	ADAPTOR, AC (AC-96N)				
	1-504-683-11	HEADPHONE				
	1-558-787-81	CORD, CONNECTION				
	3-759-265-21	MANUAL, INSTRUCTION				
	*4-044-851-01	INDIVIDUAL CARTON				
	*4-044-852-01	CUSHION (UPPER)				
	*4-044-853-01	CUSHION (LOWER)				
	*4-045-781-01	BAG, PROTECTION				
	8-913-813-90	TRANSMITTER TMR-IF310 SET				
	4-046-945-01	PAD, EAR				

ACCESSORY

TMR-IF310

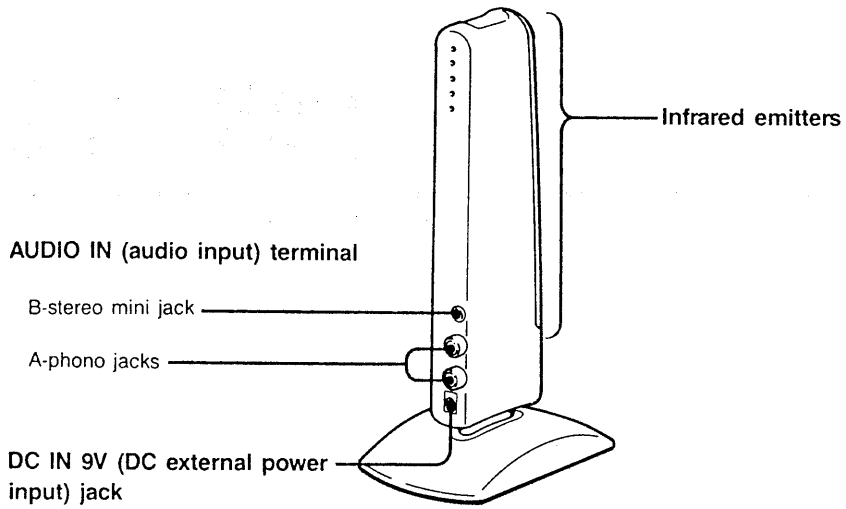
INFRARED TRANSMITTER

SECTION 1
GENERAL

This section is extracted from instruction manual.

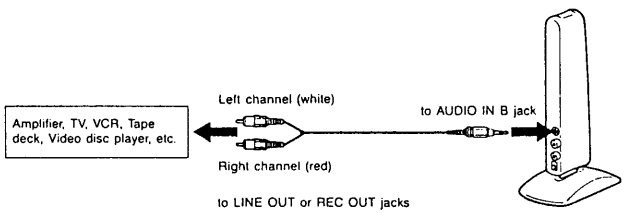
Parts Identification

Transmitter



Connecting to Audio/Video Equipment

Connecting the Transmitter to the LINE OUT or REC OUT Jacks


Amplifier, TV, VCR, Tape deck, Video disc player, etc.
Left channel (white)
Right channel (red)
to AUDIO IN B jack
to LINE OUT or REC OUT jacks

Do not use A and B terminals at the same time. If you do so, the audio signals may be mixed. When you use the supplied connecting cord and you wish to connect it to the LINE OUT/REC OUT jacks of the source equipment, connect the other end to the AUDIO IN B jack of the transmitter. If you wish to connect the cord to the HEADPHONES jack of the source equipment, connect the other end to the AUDIO IN A jacks of the transmitter.

Optional connecting cords

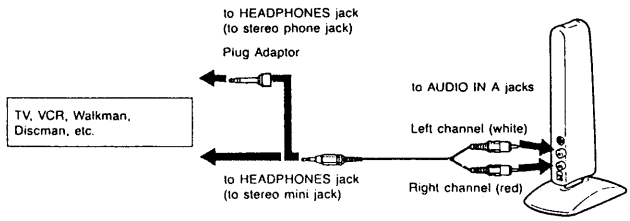
For connecting the LINE OUT/REC OUT jacks to the AUDIO IN A jacks:
RK-C510KS(1m)/C515KS(1.5m)/C520KS(2m)
(phono plug × 2 ↔ phono plug × 2)

For connecting the HEADPHONES jack to the AUDIO IN B jack:
RK-G136KS (stereo mini plug ↔ stereo mini plug)

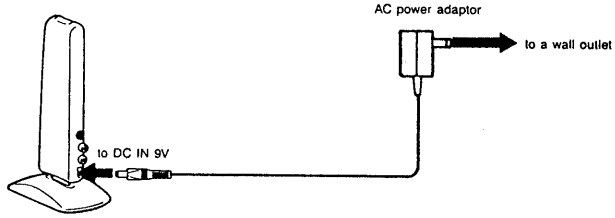
Optional connecting cord similar to the ono supplied to this unit:
RK-G129KS (stereo mini plug ↔ phono plug × 2)

Connecting the Transmitter to the HEADPHONES Jack/ Earphone (monaural mini) Jack

When you connect the connecting cord directly to an earphone jack, the audio signal will not be outputted through the right channel. In such a case, use the separately sold plug adaptor PC-236MS (stereo mini jack ↔ monaural mini plug).



Connecting to a Wall Outlet

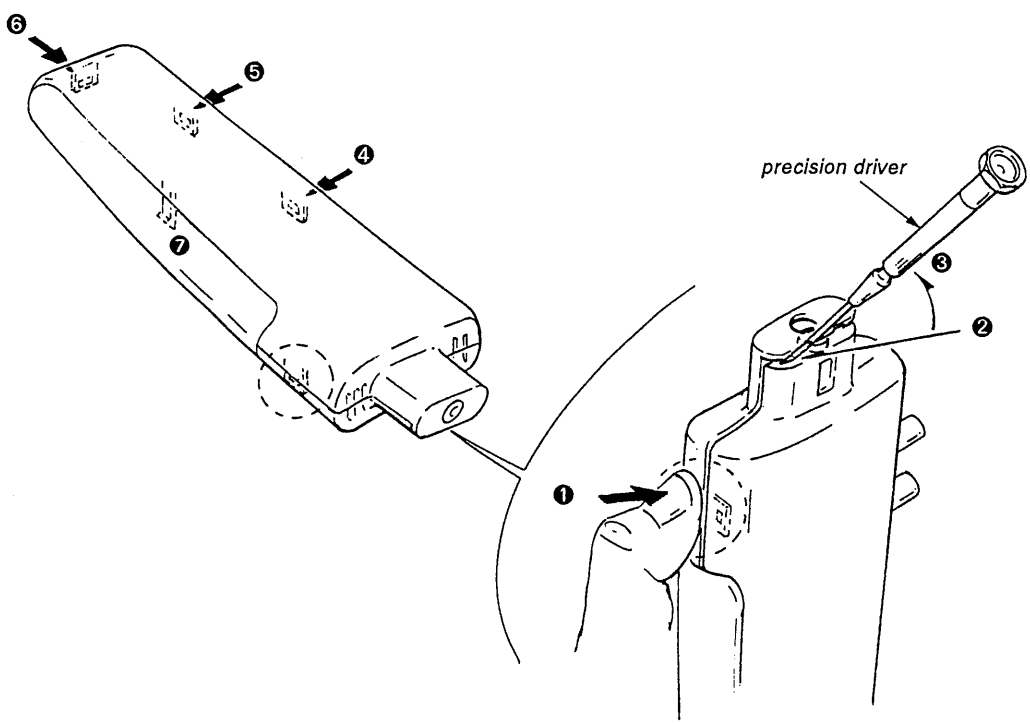


Note on the AC power adaptor
Use only the supplied AC power adaptor. Do not use any other AC power adaptor.

Polarity of the plug

SECTION 2
DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.



SECTION 3
ADJUSTMENTS

1. The adjustments should be performed in the order given.
2. The adjustments and measurements should be performed for both L-ch and R-ch unless otherwise indicated.

[Oscillating Frequency Adjustment]

Adjusting Procedure:

No signal state.

1. Short circuit between TP1 and TP7.
2. Connect the frequency counter to TP4 (L-ch) and TP5 (R-ch).
3. Adjust with L51 (L-ch) and L1 (R-ch) so that the reading on the frequency counter becomes the adjustment value.

Adjustment Value:

L-ch	L51	2.3 MHz ±3 kHz
R-ch	L1	2.8 MHz ±3 kHz

[RF Level Adjustment]

Adjusting Procedure:

No signal state.

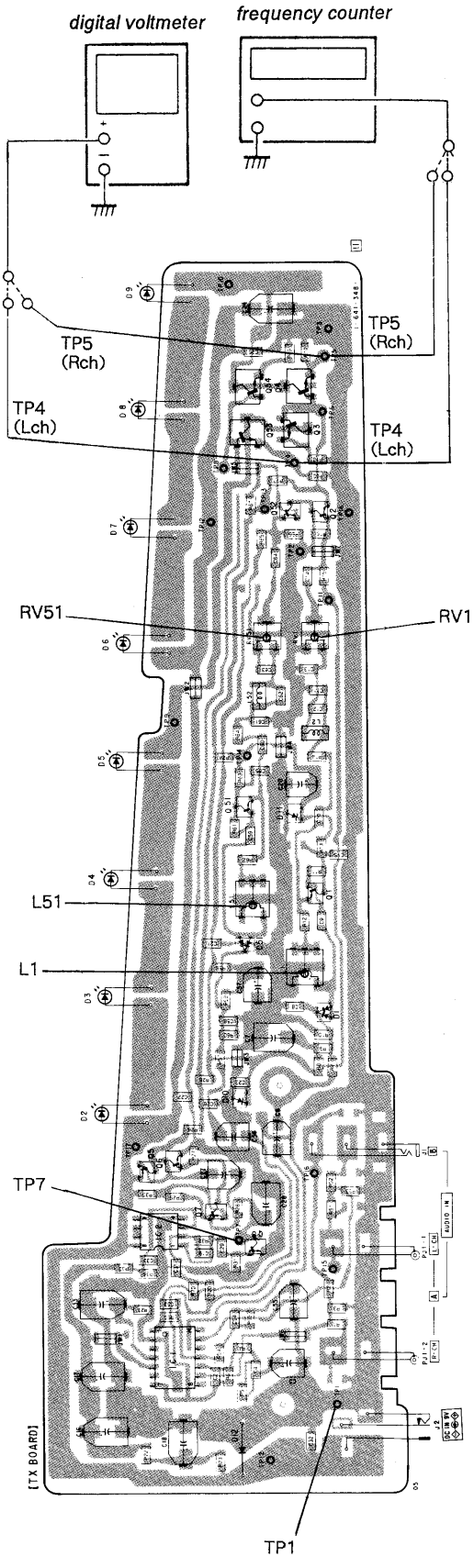
1. Connect the digital voltmeter to TP4 (L-ch) and TP5 (R-ch).
2. Adjust with RV51 (L-ch) and RV1 (R-ch) so that the reading on the digital voltmeter becomes the adjustment value.

Adjustment Value:

L-ch	RV51	240 mV ±5 mV
R-ch	RV1	240 mV ±5 mV

3. Release the short-circuit between TP1 and TP7.

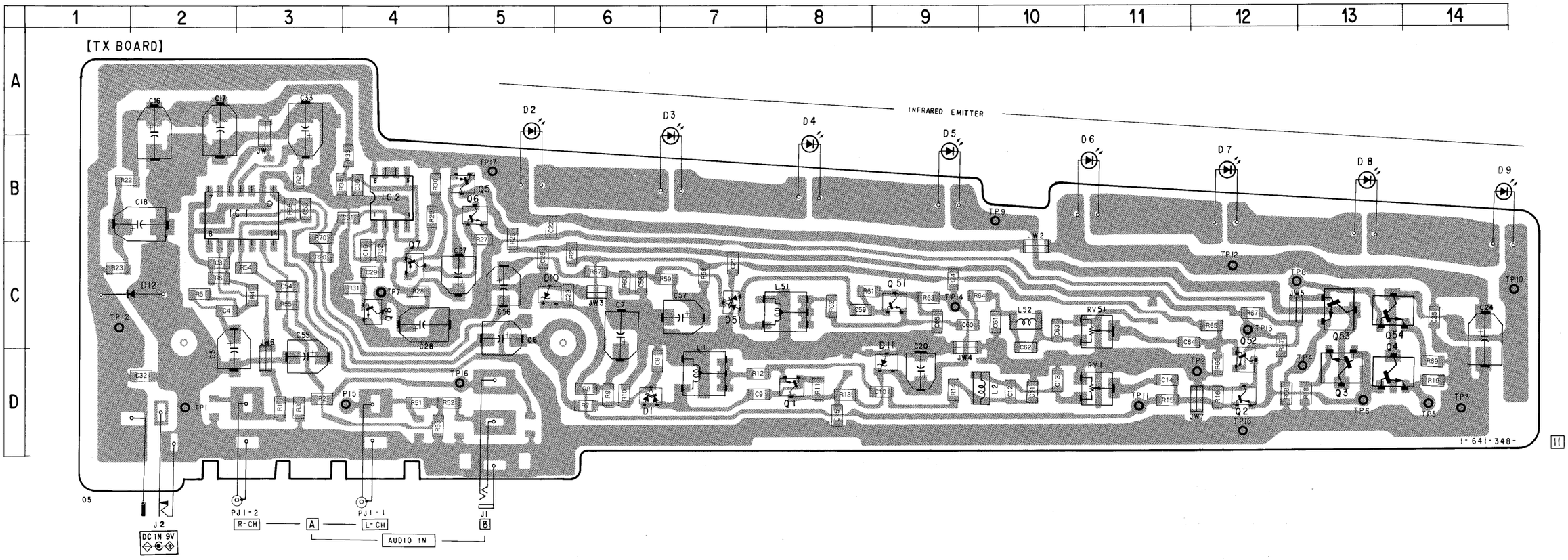
[Connection and Adjustment Location]



VIP-1000
TMR-IF310/VIP-1000H

SECTION 4
DIAGRAMS

4-1. PRINTED WIRING BOARDS

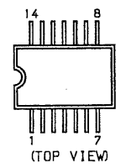


Semiconductor Location

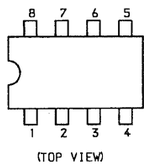
Ref. No.	Location
D1	D-6
D2	A-5
D3	A-7
D4	B-8
D5	B-9
D6	B-11
D7	B-12
D8	B-13
D9	B-14
D10	C-5
D11	D-9
D12	C-2
D51	C-7
IC1	B-3
IC2	B-4
Q1	D-8
Q2	D-12
Q3	D-13
Q4	D-13
Q5	B-5
Q6	B-5
Q7	C-4
Q8	C-4
Q51	C-9
Q52	D-12
Q53	C-13
Q54	C-13

• Semiconductor Lead Layouts

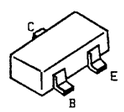
BA3308F



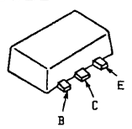
BA4558F



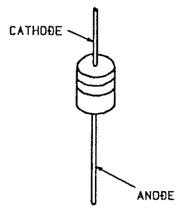
ÐTA114EK
2SA1162-G
2SA1162Y
2SC2712G
2SC2712-YG
2SC2714Y



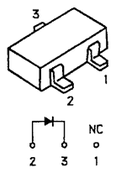
2SÐ1615A-GP
2SÐ999



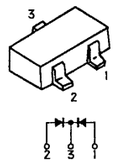
1SR139-100
11ES2



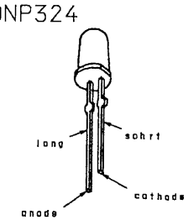
RÐ2.4M-B
RÐ6.2M-B2



SVC203CP

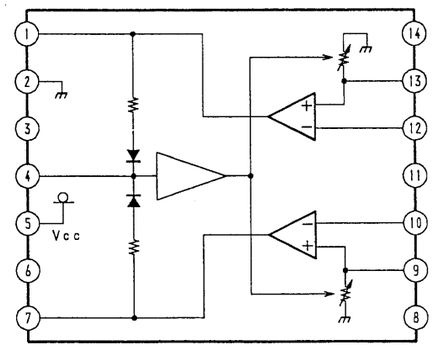


ÐNP324



• IC Block Diagrams

IC1 BA3308F



Note on Printed Wiring Board:

- ○——— : parts extracted from the component side.
- ▒▒▒ : Pattern from the side which enables seeing.

Note on Schematic Diagram:

- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytic and tantalums.
- All resistors are in ohms.
  kΩ =1000Ω, MΩ =1000KΩ
- Indication of resistance, which does not have one for rating electrical power, is as follows.

Pitch: 5 mm
Rating electrical power ¼ W (CHIP: 1/10W)

- ▭ : panel designation, or adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- Readings are taken with a 10MΩ digital multimeter.
- Voltage are dc with respect to ground unless otherwise noted.
- Voltage variations may be noted due to normal production tolerances.
- All voltages are in V.
- ▬▬ : B+ bus.
- ▒▒▒ : signal path.

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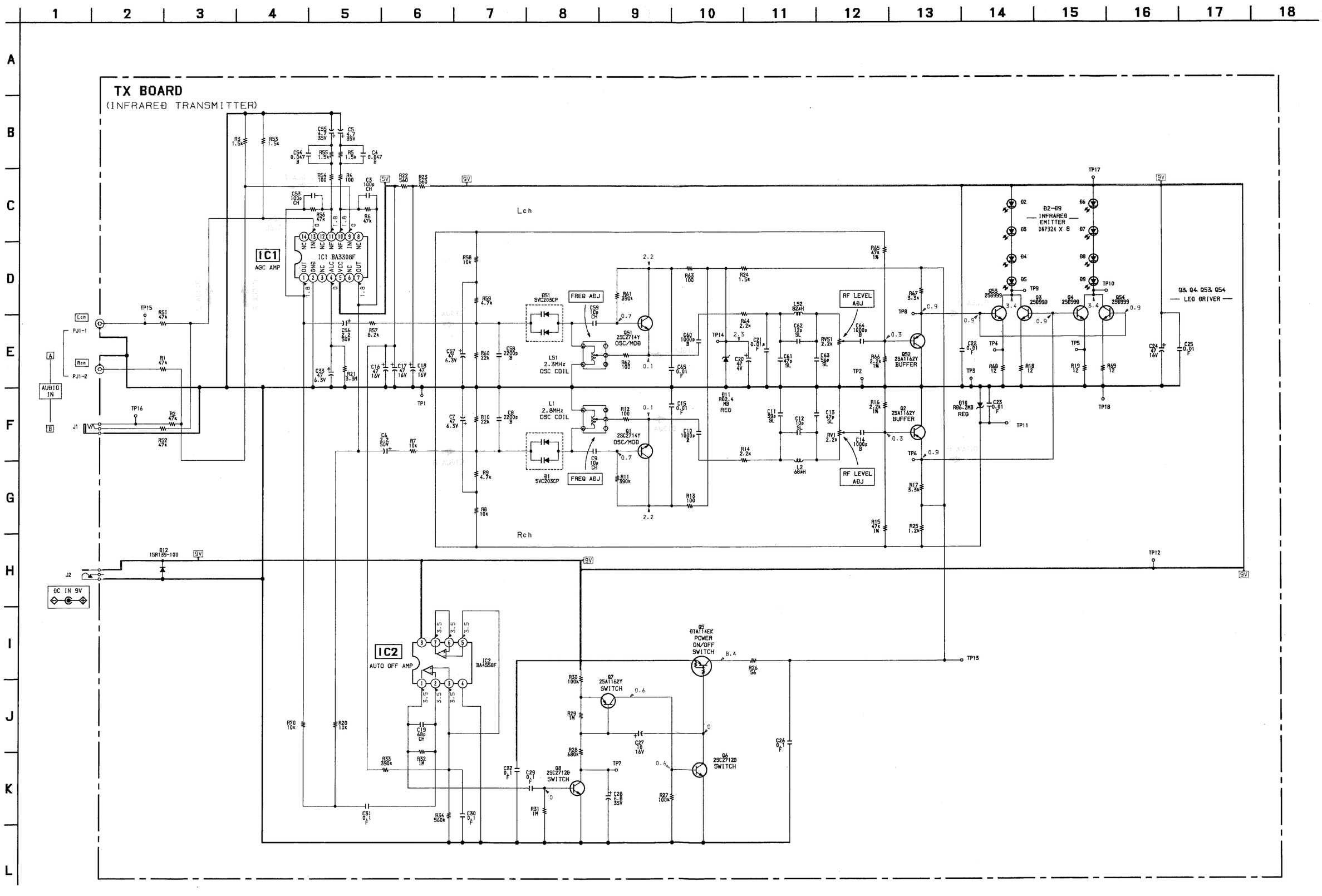
4-2. SCHEMATIC DIAGRAM



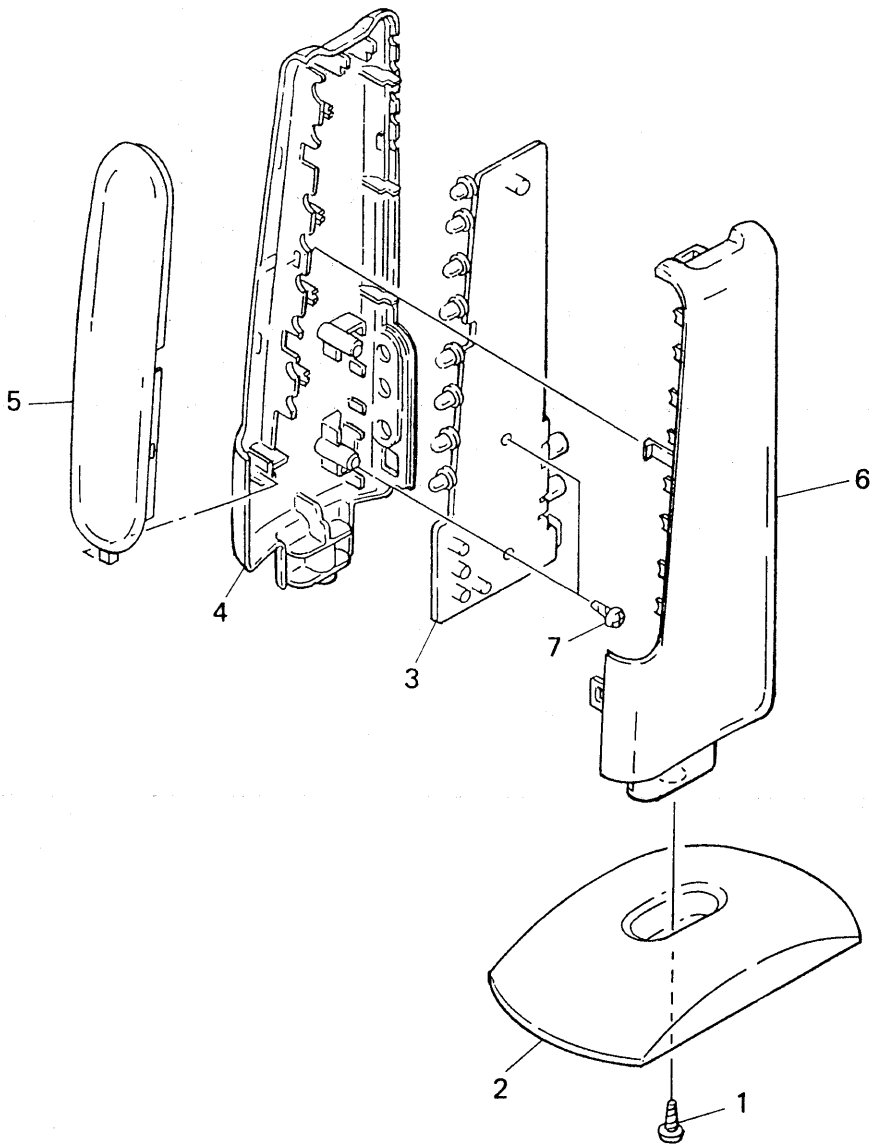
SECTION 5
EXPLODED VIEW

NOTE:

- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ ↑
  Parts Color Cabinet's Color

Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- The mechanical parts with no reference number in the exploded views are not supplied.



REF.NO.	PART NO.	DESCRIPTION	REMARK
1	7-685-660-29	SCREW +BVTP 4X10 TYPE2 SLIT	
2	4-947-802-01	STAND	
3	*A-4542-059-A	TX BOARD, COMPLETE	
4	4-947-806-01	CABINET (L)	
5	4-947-803-01	WINDOW, LUMINOUS	
6	4-947-807-01	CABINET (R)	
7	7-685-134-19	SCREW +P 2.6X8 TYPE2 NON-SLIT	

TX

SECTION 6
ELECTRICAL PARTS LIST

NOTE:

Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.

-XX and -X mean standardized parts, so they may have some difference from the original one.

- RESISTORS
  All resistors are in ohms.
  METAL: Metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F: nonflammable

Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- SEMICONDUCTORS
  In each case, u: μ, for example:
  uA...: μA..., uPA...: μPA...,
  uPB...: μPB..., uPC...: μPC...,
  uPD...: μPD...
- CAPACITORS
  uF: μF
- COILS
  uH: μH

REF.NO.	PART NO.	DESCRIPTION			REMARK
	*A-4542-059-A	TX BOARD, COMPLETE **********			
		<CAPACITOR>			
C3	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	
C4	1-163-809-11	CERAMIC CHIP 0.047MF	10%	25V	
C5	1-126-603-11	ELECT 4.7MF	20%	35V	
C6	1-126-601-11	ELECT 2.2MF	20%	50V	
C7	1-126-205-11	ELECT 47MF	20%	6.3V	
C8	1-164-161-11	CERAMIC CHIP 0.0022MF	10%	50V	
C9	1-163-227-11	CERAMIC CHIP 10PF	0.5PF	50V	
C10	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V	
C11	1-163-107-00	CERAMIC CHIP 39PF	5%	50V	
C12	1-163-093-00	CERAMIC CHIP 10PF	5%	50V	
C13	1-163-109-00	CERAMIC CHIP 47PF	5%	50V	
C14	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V	
C15	1-163-031-11	CERAMIC CHIP 0.01MF		50V	
C16	1-126-204-11	ELECT 47MF	20%	16V	
C17	1-126-204-11	ELECT 47MF	20%	16V	
C18	1-126-204-11	ELECT 47MF	20%	16V	
C19	1-163-113-00	CERAMIC CHIP 68PF	5%	50V	
C20	1-126-607-11	ELECT 47MF	20%	4V	
C21	1-163-031-11	CERAMIC CHIP 0.01MF		50V	
C22	1-163-031-11	CERAMIC CHIP 0.01MF		50V	
C23	1-163-031-11	CERAMIC CHIP 0.01MF		50V	
C24	1-126-204-11	ELECT 47MF	20%	16V	
C25	1-163-031-11	CERAMIC CHIP 0.01MF		50V	
C26	1-163-038-00	CERAMIC CHIP 0.1MF		25V	
C27	1-124-779-00	ELECT 10MF	20%	16V	
C28	1-126-199-11	ELECT 6.8MF	20%	35V	
C29	1-163-038-00	CERAMIC CHIP 0.1MF		25V	
C30	1-163-038-00	CERAMIC CHIP 0.1MF		25V	
C31	1-163-038-00	CERAMIC CHIP 0.1MF		25V	
C32	1-163-038-00	CERAMIC CHIP 0.1MF		25V	
C33	1-126-205-11	ELECT 47MF	20%	6.3V	
C53	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	
C54	1-163-809-11	CERAMIC CHIP 0.047MF	10%	25V	
C55	1-126-603-11	ELECT 4.7MF	20%	35V	
C56	1-126-601-11	ELECT 2.2MF	20%	50V	
C57	1-126-205-11	ELECT 47MF	20%	6.3V	
C58	1-164-161-11	CERAMIC CHIP 0.0022MF	10%	50V	
C59	1-163-227-11	CERAMIC CHIP 10PF	0.5PF	50V	
C60	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V	
C61	1-163-109-00	CERAMIC CHIP 47PF	5%	50V	
C62	1-163-095-00	CERAMIC CHIP 12PF	5%	50V	
C63	1-163-111-00	CERAMIC CHIP 56PF	5%	50V	
C64	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V	
C65	1-163-031-11	CERAMIC CHIP 0.01MF		50V	

REF.NO.	PART NO.	DESCRIPTION	REMARK
		<DIODE>	
D1	8-719-939-02	DIODE SVC203CP	
D2	8-719-033-18	DIODE DNP324	
D3	8-719-033-18	DIODE DNP324	
D4	8-719-033-18	DIODE DNP324	
D5	8-719-033-18	DIODE DNP324	
D6	8-719-033-18	DIODE DNP324	
D7	8-719-033-18	DIODE DNP324	
D8	8-719-033-18	DIODE DNP324	
D9	8-719-033-18	DIODE DNP324	
D10	8-719-106-08	DIODE RD6.2M-B2	
D11	8-719-105-28	DIODE RD2.4M-B	
D12	8-719-200-82	DIODE 11ES2	
D51	8-719-939-02	DIODE SVC203CP	
		<IC>	
IC1	8-759-998-71	IC BA3308F	
IC2	8-759-909-71	IC BA4558F	
		<JACK>	
J1	1-573-798-11	JACK,STEREO MINIATURE(DIA.3.5)	
J2	1-569-966-11	JACKE, DC	
PJ1-1	1-563-866-21	JACK, PIN 1P (AUDIO IN A:R)	
PJ1-2	1-563-866-41	JACK, PIN 1P (AUDIO IN A:L)	
		<COIL>	
L1	1-406-334-11	COIL (OSC)	
L2	1-410-391-11	INDUCTOR CHIP 68UH	
L51	1-406-333-11	COIL (OSC)	
L52	1-410-392-11	INDUCTOR CHIP 82UH	
		<TRANSISTOR>	
Q1	8-729-200-87	TRANSISTOR 2SC2714-Y	
Q2	8-729-216-22	TRANSISTOR 2SA1162-G	
Q3	8-729-106-68	TRANSISTOR 2SD1615A-GP	
Q4	8-729-106-68	TRANSISTOR 2SD1615A-GP	
Q5	8-729-901-04	TRANSISTOR DTA114EK	
Q6	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q7	8-729-216-22	TRANSISTOR 2SA1162-G	
Q8	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q51	8-729-200-87	TRANSISTOR 2SC2714-Y	
Q52	8-729-216-22	TRANSISTOR 2SA1162-G	
Q53	8-729-106-68	TRANSISTOR 2SD1615A-GP	
Q54	8-729-106-68	TRANSISTOR 2SD1615A-GP	

TX

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
JW1	1-216-296-91	METAL GLAZE	0	5%	1/8W	
JW2	1-216-296-91	METAL GLAZE	0	5%	1/8W	
JW3	1-216-296-91	METAL GLAZE	0	5%	1/8W	
JW4	1-216-296-91	METAL GLAZE	0	5%	1/8W	
JW5	1-216-296-91	METAL GLAZE	0	5%	1/8W	
JW6	1-216-296-91	METAL GLAZE	0	5%	1/8W	
JW7	1-216-296-91	METAL GLAZE	0	5%	1/8W	
R1	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R2	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R3	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R4	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R5	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R6	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R7	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R8	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R9	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R10	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R11	1-216-111-00	METAL GLAZE	390K	5%	1/10W	
R12	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R13	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R14	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R15	1-216-336-11	METAL GLAZE	47K	1%	1/10W	
R16	1-216-518-11	METAL GLAZE	2.2K	1%	1/10W	
R17	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R18	1-216-003-11	METAL GLAZE	12	5%	1/10W	
R19	1-216-003-11	METAL GLAZE	12	5%	1/10W	
R20	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R21	1-216-133-00	METAL GLAZE	3.3M	5%	1/10W	
R22	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R23	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R24	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R25	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R26	1-216-019-00	METAL GLAZE	56	5%	1/10W	
R27	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R28	1-216-117-00	METAL GLAZE	680K	5%	1/10W	
R29	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R30	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R31	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R32	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R33	1-216-111-00	METAL GLAZE	390K	5%	1/10W	
R34	1-216-115-00	METAL GLAZE	560K	5%	1/10W	
R51	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R52	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R53	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R54	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R55	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R56	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R57	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R58	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R59	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R60	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R61	1-216-111-00	METAL GLAZE	390K	5%	1/10W	
R62	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R63	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R64	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R65	1-216-336-11	METAL GLAZE	47K	1%	1/10W	
R66	1-216-518-11	METAL GLAZE	2.2K	1%	1/10W	
R67	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R68	1-216-003-11	METAL GLAZE	12	5%	1/10W	
R69	1-216-003-11	METAL GLAZE	12	5%	1/10W	
R70	1-216-073-00	METAL GLAZE	10K	5%	1/10W	

<VARIABLE RESISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
RV1	1-238-989-11	RES, ADJ, METAL GLAZE 2.2K	
RV51	1-238-989-11	RES, ADJ, METAL GLAZE 2.2K	

MEMO

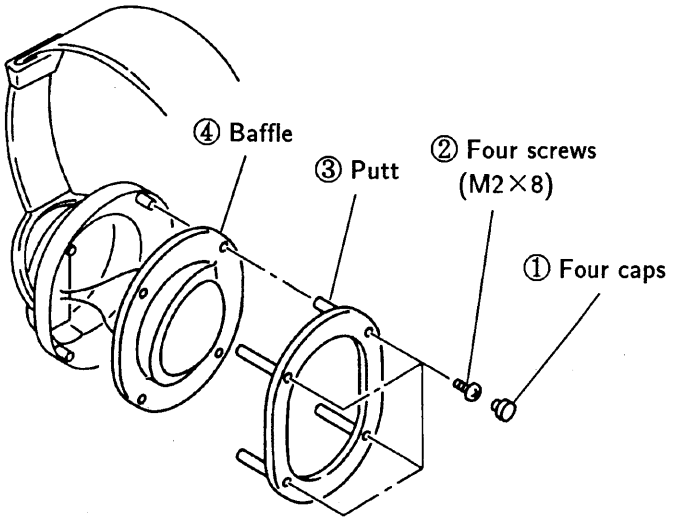
ACCESSORY

VIP-1000H

HEADPHONES

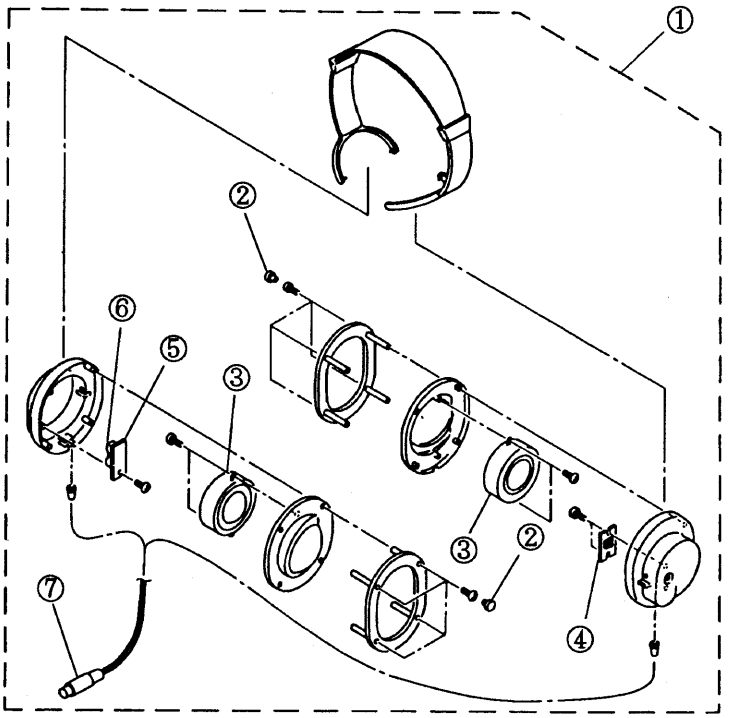
1. DISASSEMBLY

BAFFLE REMOVAL



2. EXPLODED VIEW

HEADPHONE



REF. NO.	PART. NO.	DESCRIPTION	REMARK
1	1-504-683-11	HEADPHONE	2-7
2	9-907-819-01	CAP	
3	9-907-816-01	SPEAKER UNIT	
4	9-907-818-01	B BOARD, COMPLETE	
5	9-907-817-01	A BOARD, COMPLETE	
6	1-810-662-11	SENSOR, ANGULAR VELOCITY	
7	9-907-815-01	CORD, WITH CONNECTOR	

9-964-996-01

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